American Journal of Public Health
and THE NATION'S HEALTH

Volume 36 October, 1946 Number 10

The Trend of Tuberculosis Association Programs*

LOUIS I. DUBLIN, PH.D. F.A.P.H.A.

Second Vice-President and Statistician, Metropolitan Life Insurance Company, New York, N. Y.

IT was almost twenty-three years ago, on the occasion of the annual meeting of the National Tuberculosis Association in Santa Barbara in 1923, that I last addressed a group of tuberculosis workers in this part of the country. My subject then was "The Causes of the Recent Decline in Tuberculosis and the Outlook for the Future." There may be in today's audience a number who were present on that occasion; but I can identify only a few. I may, with propriety, therefore, recall that in that paper I took stock of the situation in the field of tuberculosis and considered the facts on the incidence and mortality of the disease in relation to sex, age, race, occupation, and other factors. I discussed the efficacy of the various therapeutic procedures of the period and, more particularly, the effectiveness of our sanatoria.

At the end of my talk, I was bold enough to project an outlook for the future. I was disposed to be optimistic, for, in the period just after the great influenza epidemic, there had been a precipitous decline in the death rate from tuberculosis. I judged that the favorable trend would continue and that, altogether, we could look forward to the time when the disease would be reduced to a problem of minor dimensions in most parts of the country, even within the lifetime of those I was addressing. It is a pleasure to stand before you today and to say that my optimism has been broadly justified. The trend in the intervening period has been very much in the direction which I then predicted.

Certainly we have made enormous strides in these 23 years. Back in 1923 the death rate from tuberculosis in the country as a whole was about 95 per 100,000. In over a third of the states the rate was over 100. Today the country's death rate is below 40. Only one state, Arizona, has a rate over 70, and only 4 other states and the District of Columbia have rates of 50 or over. In 11 states the rate is below 30, and in six, below 20. Today, tuberculosis is eighth in rank among the causes of death. The death rate for white females

* Address delivered at the annual meeting of the California Tuberculosis and Health Association, San Francisco, Calif., April 23, 1946.

is a shade under 25 per 100,000, which is about 30 per cent less than from diabetes. In short, these 20 odd years have seen an increasingly effective national movement which has cut the tuberculosis death rate close to 60 per cent in the nation as a whole.

These facts make it easy to understand why you have asked me to discuss the "Trend of Tuberculosis Association Programs" and to consider among other things the future of the use of the Christmas Seal Funds. These matters are now mooted the country over. I firmly believe that we have arrived at a point in the campaign when we should take stock anew and, in the light of current facts, so shape our activities as to make the most effective use of our personnel and funds in the final attack on tuberculosis. I am delighted to have this opportunity to exchange thoughts with you on this problem and especially here where so much that is constructive and vital is going on. For, in California, you have had a strong and progressive organization—well led over many years, ready to experiment in new ways and, what is most important, you have been ready to take a broad view of the part which the tuberculosis campaign plays in the public health program as a whole. You have handled your difficult wartime tuberculosis problems with great vigor, and, considering all the wartime limitations on equipment and personnel, with great success. It has been an inspiring performance.

Our tuberculosis campaign has all along made adjustments to changing conditions. Because of the gains made, the scope and type of activities of many tuberculosis associations today are very different from what they were 25 years ago. For one thing, the voluntary agencies have succeeded far beyond their expectations in stimulating the organization of effective official services in the campaign against the disease. In the early 1920's there were relatively few states which had agencies specifically devoted to tuberculosis control. Today, every state in the Union has an agency of this kind, usually as a distinct division of the state health department, and similar agencies are found in some of our largest cities. In the 1920's there was little or no direct federal participation in the general field of tuberculosis control. Today, a strong division is being built up in the U. S. Public Health Service, staffed by competent workers and supplied with large funds to supplement the operations of the states. In a word, the official services have been widely and intensively developed and they are now carrying on some of the functions formerly carried by the voluntary agencies. It has accordingly become necessary for more and more of the voluntary societies to revamp their programs by dropping some activities and taking on new ones, or by concentrating their efforts on some special phase of the problem.

At the same time the tuberculosis societies, as a part of the whole voluntary health movement, have grown enormously in their capacity to serve. There are today 2,800 local societies, or nearly twice as many as there were in 1923, and they are more adequately supported by the public. In 1923, Christmas Seal Sales totalled $4,255,000. In the 1945 Christmas season they exceeded $15,000,000. The American people have responded exceedingly well to the continued appeal of our movement and have made increasingly large contributions to it.

It is, therefore, opportune to consider with you the trends in the programs currently operating. It is clear that these programs must vary considerably from place to place to correspond to differences in local conditions. I have already indicated the marked differences in the states where the death rates vary all the way from over 100

per 100,000 in Arizona to as low as 12 in Utah. In our larger cities much the same range is found. I wish it were possible to review with you what the actual programs of tuberculosis associations are in the various parts of the country and to discover what correlation there is between the type of program of each society and the level of the death rate in its area. I regret that this information is not uniformly available. For the purpose of our discussion, however, I can illustrate by considering the situation in two cities for which we have the information and which are very different in their local tuberculosis picture. I have in mind San Antonio, Tex., and Syracuse, N. Y.

In San Antonio the death rate is still over 100 per 100,000. Obviously, there still is very much the same basic job to do there as there was the country over in 1923, namely, to bring home to the people the elementary facts with regard to the disease, to stimulate the development of the necessary clinical and sanatorium facilities for diagnosis, follow-up of contacts, and treatment of active cases. Last year San Antonio raised $31,000, or 8.6 cents per capita. This money is spent for the usual types of tuberculosis service but, unfortunately, it does not appear to be effectively directed. Much more could be accomplished if more money and skill were available. If I were a citizen of this community, I would certainly urge that every possible effort of the voluntary and official agencies be directed against this scourge.

On the other hand, in a community like Syracuse, where the death rate is 30 per 100,000, we find a very different setup. The local affiliate of the National Tuberculosis Association, the Onondaga Health Association which serves the county in which Syracuse is located, conducts not only a tuberculosis eradication program, but an extensive campaign including social hygiene, heart disease work, mental hygiene, child health, cancer education, and virtually every element of a broadly conceived health promotion service. It is encouraging that a community like Syracuse which has accomplished so much in the tuberculosis field still continues to be actively and enthusiastically interested in the work. In 1945 the Onondaga Health Association enjoyed a per capita income of 18 cents from the Christmas Seal Sale. This is a generous figure for a tuberculosis agency. Nothing apparently has been lost by the broadening of its program.

These two cities can serve as pegs on which to hang the rest of our discussion. Clearly, local conditions are not all white or all black. Because of the great variations in our states and cities it is up to each tuberculosis society to take note of the picture in its state and local area and to adapt its program accordingly. A great many associations have already shown readiness to broaden their health programs. The National Tuberculosis Association has taken note of this tendency and has for some time made it possible for those affiliated societies that were ready to obtain approval through their state organizations for extra-tuberculosis work. Thus, the state affiliates in New York, California, Oregon, and in seven other states have already received the approval of the National Association to proceed along these lines. I am greatly encouraged by the recent trend of National Association policy in this matter. As one who has been active in the tuberculosis field for many years and closely associated with the operations of the Association, I have long felt that there was a policy of over-caution in granting permission to affiliates to carry on extracurricular activities. This bridge has now been crossed. This was accomplished last year in the adoption of the Report of the Joint Committee on Programs of Tuberculosis Associations

under the leadership of President Ross and of Drs. Amberson and Shepard of the National Tuberculosis Association, and of Mr. Auerbach of the National Conference of Tuberculosis Secretaries. Their report embodies a much more liberal policy in this field. As I understand it, the National Association actually undertakes to encourage those state and local agencies operating in areas which have low tuberculosis rates and satisfactory official tuberculosis control programs, to employ some of their funds for activities other than those classified as tuberculosis work. The door has been opened wider and it is now up to the affiliates to take advantage of the opportunity and to prepare themselves to carry on the broader work which is clearly called for in numerous states and communities.

The problem thus has shifted very largely from the national to the state and local scene, and it is there that I am sure there is much room for study and enlightened action. I can perhaps best illustrate what is in mind by referring to my experience as a member of the board of such a local Tuberculosis and Health Association. I have been a member of this board continuously for more than 30 years. For some time now I have recommended to the budget committee such extensions of the program as could profitably be undertaken. An effort was made to broaden the base of operations, and activities in such fields as venereal disease, heart disease, dental hygiene, industrial hygiene, and diabetes, did find a place in the program, thus justifying its name as a health as well as a tuberculosis society. But little by little this program has been whittled away because the budget committee has failed to support these additional activities anywhere near adequately.

First the work in diabetes was dropped and was taken over by a new agency which has since been struggling for public support. More recently the heart disease program was dropped, and thus another agency was compelled to seek support on its own account. Relatively little is available now for venereal disease control and for dental hygiene. Thus, in the current budget of $376,000, only $4,100 is available for dental hygiene, and $17,500 specifically designated for social hygiene. Some additional moneys for these services are available under such other designations as Health Education, General Services and Administration, but the amounts involved are small. The present budgetary policy is almost tantamount to discontinuing these services and impelling the groups that are especially interested in them to go out on their own. In the past the excuse given by this Association for curtailing non-tuberculosis work was the alleged opposition of the Board of Directors of the National Tuberculosis Association. Whatever substance this excuse may have had, and I think it was exaggerated, has now disappeared. As a result of its policy, moreover, the local association has lost a great opportunity for service and it has alienated the interest of many influential lay and professional leaders. It could have been the spearhead of a movement to coördinate the voluntary health services in a great metropolitan center. Instead, it has hindered such action, and in the end will be just one more agency, even if a large one, in such a coördinated group.

Our job today in the state and local affiliates is, therefore, to overcome the inertia or opposition that either represents a carry-over from the days before the Board of the National Association had broadened its policy, or reflects the ingrained conservatism of some local leaders or some tuberculosis secretaries. In many of these state and local affiliates the board of directors is composed largely of physicians interested

primarily in tuberculosis. Generally they determine policy, and their decisions are often restricted by their special interest. There is need, far and wide, for a realization that the tuberculosis societies are not professional medical groups but are essentially public institutions. As so often happens, the professional group has come to be the dominant, even the sole voice. I think we must change the trend and, in a manner of speaking, turn the societies back to the public which supports them. The time has come for a larger representation on the directing boards of professional and lay persons who have a broad outlook in the fields of public health and social welfare, as well as a live interest in finishing the tuberculosis job.

The National Association, within proper limits, can do much to stimulate such a movement. In addition to its present broader policy, it can well afford to promote the extension of the general activities of its affiliates wherever circumstances warrant. It could now profitably make a careful survey of the actual activities of its member societies. In this way it would be possible to determine where and how rapidly broader health programs can be undertaken. Indeed, a knowledge of the local facts will itself expedite the development of better programs.

I would emphasize at this point that there is no set pattern for extension of these supplementary activities. Just what new responsibilities a local society can assume, or how it should operate in a new field will depend largely on local circumstances. In many cases the health field is wide open, but one or two major neglected health problems may be all that can be handled effectively. In some of the larger cities there are other organizations already working in specific health fields, and there the job is either to pick out some neglected field for cultivation or to work in close coöperation with the other societies. In communities where there is good coördination of the activities of voluntary health agencies, the job may be largely a matter of helping to organize or finance a useful project on which one of the other agencies needs help.

Paralleling such a program by the National Tuberculosis Association for promoting the expansion of extra-tuberculosis activities of its affiliates, the trend of the times calls for a restudy of the relationship of the National Tuberculosis Association to the other health agencies associated with it in the National Health Council. Obviously on the national level the major concern of the National Tuberculosis Association must be in its own field. Yet the effectiveness of the national health agencies in their attack on the health problems of the nation would be greatly strengthened by increased coördination of the work of the national bodies. In line with their common interests there are many fields in which they can work together, as, for example, in the promotion of health education and of better housing. Nation-wide projects and studies in the fields of health and disease would be done better if the national groups involved joined together in such efforts. A variety of joint field services could be launched over the country. There are common grounds of interest in personnel training which could be developed. Fund raising, by joint action of certain societies which have expressed their readiness to proceed, could be put on a sounder and more efficient basis, and in view of the lack of relationship between needs and resources, the more adequately supported agencies might agree to help out their poor relations. After all, whatever our specific interest is, our common objective is to raise the health level of the American people.

It would be good statesmanship and good public relations for the National

Tuberculosis Association and the other agencies to go forward along these lines. The public is prepared for such a step and would welcome it heartily. I need hardly tell you what a stir has been made in our thinking by the publication of the Gunn-Platt report.* This is a down-to-earth study of the voluntary health movement quite generally over the country. It is no theoretical report, but represents rather the matured observations of two skilled men working with an advisory group of proved leaders. Their findings represent a good cross-section of the condition and activities of the many voluntary health agencies. The work was subjected to careful scrutiny and thorough criticism by all parties interested.

One of the main conclusions of this study is that the people in our local communities are becoming more and more critical, if not resentful, of the multiplicity of drives for the support of voluntary health and welfare agencies. Many are fed up with the importunities of the dozens of appeals for funds. There are in too many places too many societies. By the very nature of their multiplicity they are weak, inadequately administered, and unable to command the leadership or resources to do an effective job. Unless we are all hopelessly mistaken, there is a wholesome trend in the direction of correcting this situation by coördinating effort on the local level and thus strengthening societies to the point where they can be more effective. It is, therefore, all the more desirable and opportune for local tuberculosis societies to take note of the situation and, wherever it is possible, to expand their functions or to work closely with other agencies on problems of mutual concern. This would make them truly effective tuberculosis and health associations.

In my own State of New York, we have perhaps the most effective demonstration in the nation of the wisdom of the proposed setup for a tuberculosis society. I refer to the State Charities Aid Association under the brilliant leadership of Homer Folks and George Nelbach. This society's Committee on Tuberculosis and Public Health is the affiliate of the National Tuberculosis Association for New York State (outside New York City). As far back as 1913, it began to extend its program of activities outside the field of tuberculosis. In that year it used funds from the 1912 Seal Sale to promote the enactment of far-reaching changes in the Public Health Law of the state. This led to the reorganization of the State Health Department, the trebling of its appropriations, and to a great improvement in the quality of the official health services. As far back as 1920 the organization changed its name from the Committee on the Prevention of Tuberculosis to the Committee on Tuberculosis and Public Health. In 1921 the committee promoted the enactment of a statute giving the county boards of supervisors the power to create county health departments, with full-time health officers, and the next year it promoted the passage of the Act under which the state adopted the policy of matching dollar for dollar the public health appropriations made by the county boards. In 1926 the committee initiated the drive to eradicate diphtheria. In 1932 Christmas Seal funds began to be used in the fight against venereal diseases. Last year, the association obtained authority to use funds for heart disease work and already two local groups in the association have a definite program in that field. This expansion of the association's activities has not diminished one iota either the effectiveness of the tuberculosis program or the financial support giv ı to the agency. Quite the con-

* Gunn, Selskar M., and Platt, Philip S. *Voluntary Health Agencies—An Interpretive Study.* New York: Ronald Press, 1945.

trary! Since 1940 the sale of Christmas Seals in the area served by the agency has increased from $469,000 to a little over a million dollars in the 1945 campaign. The area covered has a population of over 6,000,000. The per capita income from Christmas Seals, 17 cents, is among the highest in the country.

You in California also have gone through the same development that I am urging on the entire movement. For many years now you have functioned both as a tuberculosis and health agency, although it was only two years ago that this was recognized in the name of the association. Broadening your scope has caused you no loss of prestige. The effectiveness of your tuberculosis program is undiminished. Financial support from the public has continued to improve. Thus, everything has been gained and nothing lost.

I am tempted to say a few more words about your situation, as an outsider sees it. Certainly you have a difficult and complicated health problem with your diverse race stocks and their high tuberculosis rates, and the popularity of the state as a place to take the cure or to convalesce. Wartime migration and the influx of Negroes has not made it any easier for you. You have a real tuberculosis problem which calls for concentrated effort. At the same time you have the wisdom to see that the tuberculosis program itself is strengthened by a broad frontal attack on the health problem as a whole. Yours has not been a narrow vision. I sincerely hope that you will continue to work along these lines and to serve as a brilliant example of the new and more effective approach to the problem of tuberculosis control.

To sum up, then, it is my considered judgment that the future work of the tuberculosis societies should be broadly based. Such a policy would be wise in view of the continuing improvement in our tuberculosis situation. We must not wait too long lest we find ourselves in the embarrassing position of attempting to raise large sums of money and conducting campaigns which lack sincerity and the elements of reality. It is far better that we ourselves take leadership in widening the scope of our health operations rather than be pushed to it by a critical public. Now is the time for the movement to take the initiative in anticipation of achieving our goal—the eradication of tuberculosis from our country.

The National Social Welfare Assembly Issues Director's Notes

August saw the first issue of "Notes from the Director" of the National Social Welfare Assembly. It announces that "from time to time" the Director "will prepare notes of happenings and things to come." This first issue reports on a variety of items—the creation of a Youth Division, plans for field service, for an international social welfare organization, a report on Service to Veterans, and on forums on varied current social problems.

The Director of the Assembly is Robert E. Bondy; its address is 1790 Broadway, New York 19.

Procedure for Bacteriological Examination of Brined, Salted, and Pickled Vegetables and Vegetable Products*

JOHN L. ETCHELLS, PH.D., AND IVAN D. JONES, PH.D.

Bureau of Agricultural and Industrial Chemistry, Agricultural Research Administration, U. S. Department of Agriculture, Raleigh, N. C.; and Department of Horticulture, North Carolina Agricultural Experiment Station, Raleigh, N. C.

THE tentative methods described are presented for the examination of certain brined, salted, and pickled vegetables and vegetable products. The products given consideration are broadly classified as follows:

I. CUCUMBER PICKLES AND SIMILAR PICKLE PRODUCTS

A. *Salt Stock for Cured Pickle Products*
1. Cucumbers (and onions, peppers, tomatoes, cauliflower, melon rinds, etc.)
2. Genuine dill pickles (from cucumbers or tomatoes)

B. *Finished Pickle Products from Brine-cured Stock*
1. Sweets
2. Sours
3. Mixed
4. Relishes
5. Artificial or Processed Dills

C. *Types of Pasteurized Pickles (Not brine-cured)*
1. Dills (sliced or whole)
2. Sweets (sliced or whole)
3. Relishes (mixed vegetable)
4. Vegetables other than cucumbers (onions, peppers, tomatoes, etc.)

II. BRINED AND SALTED VEGETABLES FOR NON-PICKLE USE

A. *Brined*
1. Okra (whole)
2. Celery (whole)
3. Sweet pepper hulls

B. *Dry-salted*
1. Corn
2. Lima beans
3. Peas
4. Snap beans
5. Okra (cut)
6. Celery (cut)

General directions for collection, storage, transportation, and preparation of samples are given for the products as a whole. Individual discussion of products (IA, B, and C; IIA, and B) is presented chiefly as to: Introductory material of descriptive nature; microbial groups involved; significance of observations; and other remarks incident to the bacteriological examination. Directions for the preparation and use of differential culture media employed in the examination of the products are combined under a separate

* Agricultural Chemical Research Division contribution No. 176. Approved for publication as paper No. 223 of the Journal Series of the N. C. Agricultural Experiment Station.

section. The media as listed are: BG, Brilliant Green Lactose Bile Agar; NC, Nutritive Caseinate Agar; AD, Acidified Dextrose Agar; LBS, Liver Broth Plus Salt; and LB, Liver Broth without Salt.*

Procedure for microscopic examination and directions for determination of acidity, pH and salt are given from a general standpoint.

It should be pointed out that the bacteriological methods of examination presented herein are based essentially on methods previously used by the authors in studying the predominating microbial changes occurring in certain brined and salted vegetables undergoing natural fermentation. They have also been used to some extent in the examination of certain manufactured pickle products undergoing spoilage as evidenced by active fermentation of one or more microbial groups.[1]

For the types of material receiving consideration, examination for one or more of the following general classes of non-pathogenic microörganisms† should be given attention: Acid-forming bacteria, coliform bacteria, yeasts, molds, mycoderma,‡ salt-tolerant cocci, and obligate halophiles. Also, for any specific case involving a malodorous, butyric acid fermentation, examination for butyric acid bacteria should be included.

An incubation temperature range of 32–35° C. is suggested for the mesophilic groups dealt with in this report. However, 35° has been found satisfactory for adequate growth of the eight groups of microörganisms that might be involved in various products listed. While it may be argued that a few degrees above or below 35° C. may be slightly better for the cultivation of a certain group, it does not seem sufficient cause wholly to justify recommendation of three or more specific incubation temperatures (32°, 35°, and 37° C.) to cover the mesophiles involved. Also, the diversity of standard incubation temperatures that have been suggested for growth of microörganisms in the examination of food products (particularly mesophiles having similar temperature requirements), is such that the average laboratory, especially those in the field, finds it impracticable, if not impossible, to meet these requirements, due to limited incubator facilities. Furthermore, the use of a temperature range of 30–32° C. in certain sections of the country cannot be maintained for about 4 months of the year without an incubator equipped with a refrigerator unit.

COLLECTION, STORAGE, AND PREPARATION OF SAMPLES

Collection of Samples — Brine or pickle liquor covering the vegetable material is required for examination. The size of the container to be sampled may range from a small jar of pickles to a 1,000 bushel vat of fermenting salt-stock. Brine samples from large containers, such as vats and barrels, should be taken for bacteriological analysis as follows:

A suitable length of 3/16" stainless steel tubing (sealed at one end with lead or solder and perforated with sev-

* When a specific medium is referred to in the text for use in determining a group of organisms, it is identified for reference purposes by the proper abbreviation (e.g., BG for Brilliant Green Lactose Bile Agar) in parenthesis.

† The possibility of food poisoning microörganisms (and other pathogens) occurring in pickled, brined, or salted vegetables and vegetable products is generally considered somewhat remote. For this reason, methods of examination for these groups are not dealt with in this report. In event such specific examinations are required, accepted procedures should be used.[2]

‡ For convenience, the term "mycoderma" is used herein to denote the film-forming yeasts responsible for the luxuriant surface growth on cucumber pickle brines exposed to the air but sheltered from direct sunlight. While the expression is misleading, it is in common usage in the pickle industry. Actually, scum formation in the products to be discussed is probably not limited to the asporogenous yeasts of the *Mycoderma* genus but may well include sporogenous yeasts of one or more of the remaining genera (*Hansenula, Debaryomyces, Pichia, Zygopichia*) of film-forming yeasts.[3, 4]

eral 1/16" holes for a distance of 6–8" from the sealed end) is inserted through an opening in the false head, down into the brine toward the center of the vegetable material. The brine sample is withdrawn through a previously attached piece of rubber tubing into a 12 oz. juice bottle. The receiving bottle is fitted with a two-hole rubber stopper and two short lengths of glass tubing—one for the rubber tubing leading from the stainless steel sampling tube, and the other for a suction bulb to start the siphoning action. The length of the steel sampling tube to be used will be governed by the depth of the container to be sampled.

Approximately 24 oz. are withdrawn before taking the final sample (about 10 ml.) in a sterile test tube. If microbial changes during the fermentation are to be followed, sampling should be started at the time the material is salted or brined and continued at regular intervals (one to two days) during active fermentation.

For tightly headed barrels, such as are used for genuine dills and salted vegetables for non-pickle use, the sample should be taken through the top or side bung.

For smaller containers, such as jars or cans of pickle products, the sample, after a thorough shaking, is taken directly from the center of the material by use of a sterile pipette. Tops of metal cans should first be washed with alcohol, flamed, and punctured. A "Canco" beer can opener is very useful for puncturing metal tops. If the containers show evidence of gas pressure, first release the gas carefully by puncturing the top with a flamed ice pick.

Brine samples for subsequent chemical determinations can be preserved by the addition of sodium 2,4,5 trichlorphenolate (Dow) sufficient to make a dilution of about 1–10,000 as described by Veldhuis.[5] The samples are collected in standard crown finish bottles, such as beer bottles or soft drink bottles, of convenient size (6 to 12 oz. capacity). About 10 drops of a 10 per cent aqueous solution of the chemical is added for 12 oz. samples. The bottles are capped with 26 mm. crown closures, using a hand operated beer bottle capper, and are shaken to distribute the chemical. Crown closures having cork or composition cork liners alone are not satisfactory for prolonged storage of samples. For this purpose, caps having an additional "spot" liner of the "panaseal" or "vinylite" type should be used.*

Samples preserved with the above chemical compound are unfit for human consumption.

Storage of Samples—Brine samples from actively fermenting material cannot be satisfactorily stored or held under refrigerated conditions without marked changes taking place in the microbial flora present. For this reason, samples should be examined promptly after collection. The same is true for samples of packaged pickle products.

Preparation of the Sample—Suitable decimal dilutions of the brine or pickle liquor samples are made in the usual manner. These are plated on the various differential solid media, or inoculated into liquid media described under Preparation and Use of Media.

MICROSCOPIC EXAMINATION

Microscopic examination of the samples is helpful at times, particularly when carried out in conjunction with

* The same type of bottles (either amber or clear glass) and closures are suggested as containers for bacteriological media, especially for field work. The media are bottled at 65–70° C., capped, and then sterilized in the usual manner. About 250–300 ml. are put in a 12 oz. bottle. For media which are to be used in a relatively short time, bottles with screw type finish for use with caps having rubberized liners have been found more convenient to use. A bottle of melted medium can either be transferred to a sterile flask and promptly cooled for pouring, or, it can be allowed to cool in the bottle and poured. Bottles just out of the steamer should not be plunged into cold water.

plate count observations. Direct counts can be made if desired. The following procedure is suggested: Place 0.01 ml. portions of the fermenting brine or liquor in sequence on slides at each sampling interval. Where extremely high populations of organisms are suspected, a 1:10 dilution of the sample should be used. The smears are prepared and counted according to the method of Wang,[6] a modification of the Breed[7] technic. The preparations are stained according to the Kopeloff and Cohen[8] modification of the Gram stain. The actual counts are made on the basis of the numbers and morphological types of individual Gram-positive and Gram-negative cells present per ml. of brine.

TITRATABLE ACIDITY AND pH

Determinations of titratable acidity and pH of the samples are extremely useful in providing supplementary information in bacteriological analysis. Titratable acidity is determined on 5 or 10 ml. amounts of sample. The sample is diluted with 30–50 ml. of distilled water, brought just to boiling, cooled, then titrated with 0.10 N NaOH, using phenolphthalein as the indicator. For brine samples, the values should be calculated in terms of grams lactic acid per 100 ml. of sample; for liquor samples from packaged pickle products, in terms of acetic acid. Where only a small amount of original sample is available, a 2 ml. sample can be used for titration purposes. The pH determinations are made with the glass electrode.

SALT

In the microbiological examination of brines, knowing the approximate salt content is often helpful. This can be obtained by use of a salometer providing sufficient sample is available (about 100 ml.). For small amounts of sample, a chemical test for salt[9] is required.

EXAMINATION PROCEDURE

I. CUCUMBER PICKLES AND SIMILAR PICKLE PRODUCTS

The three main classes of products under this heading are: Salt stock vegetables and genuine dills; finished or packaged pickle products made from salt stock; and types of pasteurized pickle made from fresh stock. The cucumber is the principal vegetable involved, although substantial amounts of other vegetables, such as onions, peppers, cauliflower, and green tomatoes, may be used in mixed pickle, relishes, or as individual products.

A. *Salt Stock Vegetables and Genuine Dills*

Examine the fermenting brines by the plating technique with respect to the following: Total count (NC); coliform bacteria (BG); lactic acid bacteria (NC); and yeasts (AD). For brines of high salt concentration, 15 per cent salt and above, consideration should also be given to the salt-tolerant cocci (NC) and obligate halophiles (LBS). Under curing and storage conditions where the brine surface is exposed to the air and sheltered from direct sunlight, examine for molds and mycoderma (AD). In any instance where a malodorous fermentation is observed, examine brine samples for the butyric acid group (LB).

Significance of Observations — The acid fermentation, resulting from active growth of the lactic acid bacteria, is to be expected at brine concentrations below 15 per cent strength.[10] The developed brine acidity in combination with the salt results in preservation of the salt stock and genuine dills.

Activity by the coliforms and yeasts is associated with a gaseous fermentation. This may bring about a condition in salt stock cucumbers and dill pickles known as "bloaters" or hollow cucumbers. Although both groups of organisms are extremely salt-tolerant

(20 per cent or above), the coliform bacteria are not acid-tolerant and are not usually found in brines having appreciable acidity. The exception to this may be found in cases of highly buffered material, such as dry-salted peas.

Luxuriant growth of mycoderma scum may occur at various salt concentrations and will result in loss of brine acidity. When molds accompany scum growth, the texture of the vegetable material may be seriously affected. Heavy scum and/or mold growth is the result of neglect in looking after brined material during the curing and storage period.

The significance of the presence of the salt-tolerant cocci and obligate halophiles is presented under Brined and Salted Vegetables for Non-pickle Use.

B. *Finished Pickle Products*

Fully cured salt stock vegetables are made into various types of finished pickle products by a series of operations involving leaching out most of the salt, souring with vinegar, and then sweetening with sugar. With these products, preservation is dependent upon sufficient amounts of vinegar alone (for sour pickles) or a combination of vinegar and sugar (for sweet pickles) being used. If such is not the case fermentation principally by two groups of organisms—the lactic acid bacteria and the yeasts—will usually take place. Molds and mycoderma may also grow on the surface of the liquor, chiefly as the result of faulty jar closure.

Examination of the liquor sample should be made for: Total count (NC); acid-forming bacteria (NC) and yeasts, molds, and mycoderma (AD). In undisturbed sample jars, the growth of surface mold and scum growth may be obvious. It should be carefully removed after first recording the extent of growth, since if shaken up with the sample, it will only complicate the counts for acid formers and yeasts when the latter groups are present. Examination for coliform bacteria, salt-tolerant cocci, halophiles, and butyric acid bacteria is not normally required due to the acidity of these products.

A total count of a few thousand organisms per ml. is normally found in unspoiled pickle products. These counts are composed chiefly of resistant, aerobic spore-types that remain inactive in the acid medium of the pickle liquor.

Significance of Observations—Active yeast fermentation in the product is usually characterized by vigorous gas production so that the liquor becomes highly charged with gas and possesses a stinging taste. Gas production may be sufficient to blow lids off jars having vacuum type closures; to break jars having screw-type lids; or burst sealed cans.[11]

The acid content of the liquor may be increased due to the activity of the acid-producing bacteria. Also, whole pickles may become "bloaters" (hollow) due to the gaseous fermentation by yeasts and/or gas-producing types of acid-producing bacteria.[11]

Extensive mold and mycoderma growth usually result in a reduction in acidity of the liquor, and, in advanced stages, the vegetable may be completely softened due to such growth.

C. *Pasteurized Types of Pickle*

In general, pasteurization is required (165° F. for 15 min.) for pickle products that do not contain sufficient amounts of added vinegar and sugar to stop fermentation by certain organisms. There are probably a dozen or more different types of cucumber pickle that fall in this classification, such as various types of fresh dills; fresh, sliced cucumber pickle; and low-acid and -sugar sweet pickle (from salt stock). Also, many non-cucumber products are included (e.g., dilled tomatoes, sweet

peppers, and fresh vegetable relishes) that are prepared from uncured stock.

Spoilage occurs in this class of products when they are improperly pasteurized, and is due chiefly to yeasts and/or acid-forming bacteria that survive the faulty heat treatment. Molds and mycoderma scum are factors principally in cases of poor jar closure.

The examination should be conducted as described under "B" (Finished Pickle Products). Also, the significance of results is essentially the same as described under that heading.

II. BRINED AND SALTED VEGETABLES FOR NON-PICKLE USE

Brined and salted vegetables such as green peas, corn, snap beans, okra, and celery are included in this classification. They differ from products previously mentioned in that they are used in the preparation of soups, mixed vegetables, and strained vegetable products.*

Most of the vegetables, after blanching, are preserved according to the dry-salting method,[12] using a ratio of 1:5 with respect to salt and vegetable weight, and stored in tightly headed wooden casks, preferably at refrigerator temperature within the range of 1.7 to 4.4° C. (35–40° F.). Celery and okra in the whole state are usually brined at about 20 per cent salt concentration rather than dry-salted. The same is true for sweet red peppers.

Brine samples should be examined for: Total count (NC); acid-forming bacteria (NC); coliform bacteria (BG); salt-tolerant cocci (NC); yeasts, molds, and mycoderma (AD); and obligate halophiles (LBS). In cases where malodorous fermentation is suspected, examine for the butyric acid group (LB). However, the brine concentrations usually encountered would be considered somewhat above their usual tolerance. The same is true for the acid-forming bacteria of the lactic group.

Significance of Observations—With these products, gaseous fermentation is associated with active development of the coliform bacteria, the yeasts, and the obligate halophiles, all of which can tolerate the high salt concentrations (15 per cent and above) normally employed for preservation. Either one or more of the above groups may be present. Gas pressure may be sufficient to burst the barrels. The flavor and appearance of the material may also be altered by the growth of the above groups.

High populations of the salt-tolerant cocci may be found over an extended period in the brines, particularly in those containing no appreciable amount of developed acidity. These organisms are extremely salt-tolerant but not acid-tolerant. Their fermentation is not gaseous in nature and no outstanding change in the product has been attributed to their presence; although small amounts of brine acidity may be produced under conditions providing reduced oxygen tension. When numerous colonies showing a decided acid reaction are found on the plates, they should be carefully examined. The chances are they will not be acid-producing bacteria of the lactic group, as might first be suspected, but rather acid-producing cocci types. This is particularly true in cases where the brine concentration is above 15 per cent salt.

Growth of molds and mycoderma scum is apt to be a factor where there is air above the brine surface in the container. Unrestricted growth by molds may seriously affect the texture and flavor of the vegetable material. Heavy scum growth is undesirable, principally from the flavor standpoint. Casks should be kept filled with brine at all times, irrespective of storage temperature.

* An estimated 50,000 tons of salt preserved vegetables were used in this manner yearly during 1942–1945. Under peacetime conditions, okra, celery, and sweet red peppers are probably the chief vegetables salt preserved for non-pickle use.

As mentioned earlier, refrigerated storage (about 1.7° C.) of these brined and salted products is preferred. Under such conditions, and at salt concentrations of 15 per cent and above, microbial activity of the various groups may be greatly restricted. However, at salt concentrations in the range of 10 per cent strength, the cocci may readily grow at about 1.7° C. (35° F.).

In the absence of refrigerated storage conditions, the microbial changes may continue to take place over a period of months.

PREPARATION AND USE OF MEDIA

(BG) *Brilliant Green Lactose Bile Agar* [13]

Coliform Bacteria—The above medium, Difco formula, has been found satisfactory for estimating the relative populations of the coliform bacteria during the fermentation of a number of brined and salted vegetables. The medium is prepared and used according to the directions supplied with the dehydrated product. Strict attention should be paid to the medium's sensitivity to light and preferably it should be prepared just prior to use. When this is not convenient, the prepared medium should be stored in the dark. Subsurface colonies of coliform bacteria are deep red in color against the blue background of the medium.

Incubate plates 18 hours at 32–35° C., and record the number of coliform colonies per ml. of brine or liquor examined.

Violet Red Bile Agar (Difco formula) is also suggested for use for the enumeration of the coliform organisms. It should be prepared and used according to the directions provided with the dehydrated product. For further information as to the nature of the coliform organisms present on the plating medium used, the representative colonies can be streaked on Levin's eosin-methylene-blue agar. Identification studies on isolates of coliform bacteria from cucumber fermentation [14] showed that they belonged to the genus *Aerobacter;* members of the *Escherichia* genus were not found.

(NC) *Nutritive Caseinate Agar (Difco)*

This medium has proved most successful for determining population trends of acid-producing bacteria during the fermentation of: dill pickles [15]; cucumbers for salt stock [10]; improperly pasteurized fresh cucumber pickle [1]; and, also, in connection with the fermentation of a number of other brined and salted vegetables. It is also used for enumerating total count, salt-tolerant cocci, and peptonizing bacteria.

Prepare the medium for use according to the directions provided with the dehydrated product, but add 0.04 gm. of solid brom-cresol-purple per liter as an indicator. Since Nutritive Caseinate Agar contains less agar than the usual solid media, care should be exercised in the amount of medium poured per plate, as well as in cooling the plates, to avoid solidification difficulties. Not over 15 ml. of medium should be used per plate to insure a reasonable solidification time, and, during hot weather, facilities for cooling the plates will prove helpful.

Acid-forming Bacteria—These organisms show a zone of precipitated casein and a yellow color about the colony on Nutritive Caseinate Agar. The degree of casein precipitation and change in indicator may vary, depending on the activity and type of acid-former present. Subsurface colonies range in size from about 0.5 to 2.5 mm. and are mostly elliptical in shape. Surface growth is usually poor.

As a rule, yeasts, other than lactose-fermenters, do not grow out well on Nutritive Caseinate Agar. Furthermore, yeasts tend to give a slightly alkaline reaction to the medium, as contrasted with the acid-forming bac-

teria just mentioned. In cases where doubt exists as to whether yeast counts are being confused by the presence of acid-forming bacteria, the colonies should be stained.

Occasionally a high percentage of tiny (0.1 mm. or less) acid-forming colonies is found in certain vegetable fermentations. The growth of these poor lactose-fermenters is often greatly enhanced by the addition of 0.1 per cent dextrose to the medium. The additional dextrose will likewise enhance the growth of yeasts if present in the sample. For this reason careful examination for yeasts should always be made when the dextrose supplement is added to Nutritive Caseinate Agar.

Salt-tolerant Cocci—While Nutritive Caseinate Agar is not considered a differential medium for the salt-tolerant coccus forms, it may be used for estimating the numbers of these organisms present in brines of high salt concentration. Differentiation is based on the characteristics of the colonies on the agar and by stained preparations from the principal colonies present. In routine examination of brines of high salt concentration, these organisms, as a rule, are the principal types found on the above mentioned medium. Their presence is usually indicated by two predominating types of colony—a greyish white, entire, glistening colony of moderate size and a similar colony that is light orange to yellow in color. The subsurface colonies are elliptical to lenticular in shape. The cells of the white colony type are distinctly smaller than those of the pigmented variety. Due to their sensitivity to brine acidity, they are not usually encountered in fermentations where active growth of the acid-forming bacteria has taken place (i.e., brines containing up to 15 per cent salt by weight). Deep subsurface colonies of some of the cocci may give an acid reaction to the indicator in the medium, but on prolonged incubation the reaction becomes alkaline. In highly buffered salted vegetables, at salt concentrations bordering on the range of salt tolerance for the acid-forming bacteria, care should be exercised that such acid-producing colonies are not recorded as true acid-producing bacteria of the lactic group.

The plates are incubated 3 days at 32–35° C. and first counted as to total colonies, acid-forming colonies, and cocci colonies per ml. of brine or liquor examined. For an estimate of the number of peptonizing bacteria, the plates (after recording total, acid-former, and cocci counts) are then flooded with a 5 per cent solution of glacial acetic acid. The colonies surrounded by clear zones are recorded as peptonizing bacteria.

(AD) *Acidified Dextrose Agar* [16]

Yeasts—Yeast populations in fermenting vegetable brines [17] and pickle products [1, 15] can be detected by the use of Acidified Dextrose Agar. This medium consists of ordinary Dextrose Agar (Difco formula) to which 5 ml. of sterile 5 per cent tartaric acid is added per 100 ml. of the melted agar prior to pouring the plates. The addition of the tartaric acid brings the pH of the medium to the range of 3.5–3.7 and thereby inhibits active development of the other usual brine organisms.

Yeasts in High Salt Brines—Occasionally yeasts are found at high salt concentrations, 15 to 20 per cent, that will not grow well on the medium containing the amount of tartaric acid indicated above.[14] A medium containing 3 ml. rather than 5 ml. of the acid per 100 ml. of melted agar usually corrects this condition. However, the modified medium should not be used where the salt content of the sample is known to be much below 15 per cent because acid-forming colonies, if present, will grow sufficiently to confuse the yeast count. During the active fermentation

TABLE 1

Guide to the Bacteriological Examination of Certain Brined, Salted, and Pickled Vegetables and Vegetable Products

Microbial Group Involved	*Culture Medium Used (and Abbreviation)*	*Classes of Fermenting Products in Which Microbial Group Is Likely to Be Present*[2]	*Remarks Concerning Microbial Groups*
Coliform bacteria	Brilliant green lactose bile agar (BG) or violet red bile agar	IA: Fermenting salt stock vegetables and genuine dills. IIA&B: Brined and salted vegetables for non-pickle use.	Gaseous fermentation. Group salt-tolerant but not acid-tolerant. Most likely absent from finished pickles due to acid content; same is true for brines when appreciable acid is present.
Acid-forming bacteria	Nutritive caseinate agar[1] (NC)	IA: Fermenting salt stock vegetables and genuine dills. IB: Finished pickle products. IC: Pasteurized pickle products.	Acid fermentation. Salt-tolerant up to 15 per cent; not likely to be found in brined and salted vegetables above this concentration (IIA&B)
Salt-tolerant cocci	Nutritive caseinate agar	IIA&B: Brined and salted vegetables for non-pickle use; also, other high salt vegetables without appreciable acidity.	No outstanding characteristics of fermentation reported. Group salt-tolerant but sensitive to acid. Can grow at refrigerator temperature (1.7° C.) at approximately 10 per cent salt.
Yeasts, mycoderma[3] and molds	Acidified dextrose agar (AD)	All classes of products (IA, B,&C, & IIA&B) for yeasts. Molds and mycoderma on liquid surface of products exposed to air and sheltered from sunlight.	Yeasts: gaseous fermentation; acid- and salt-tolerant. Molds and mycoderma: acid- and salt-tolerant; both groups utilize acid of products and require free oxygen for growth.
Obligate halophiles	Liver broth plus salt (LBS)	IIA&B: Brined and salted vegetables for non-pickle use. Also, in other vegetable brines at high salt concentration.	Gaseous fermentation. Group requires about 15 per cent salt in culture medium and reduced oxygen tension. Sensitive to acid. General fermentation behavior not well known.
Butyric acid group	Liver broth plus particles (without salt) (LB)	Uncommon in brined and salted vegetables; examination should be made if malodorous fermentation is detected.	Malodorous, gaseous fermentation. Not particularly acid- or salt-tolerant. Active fermentations rare in properly brined or salted vegetables.

[1] Also used for total plate count.
[2] Refer to outline for more detailed classification of products listed under IA, B, and C, and IIA and B.
[3] Refers to film-forming yeasts in general.

of high-acid producers of the lactic group, some tiny colonies may begin to show through, even when the full amount of tartaric acid is used. In such cases, numerous small, undeveloped acid-producing colonies form a halo effect about the yeast colonies where the acid reaction is presumably of less concentration than the surrounding medium. Acidified Dextrose Agar is definitely preferred for detecting yeasts in brines rather than Wort or Malt Agar, since the pH values (about 4.5 and 5.5, respectively) for the latter media are much less inhibitive for the lactic acid bacteria.

Mycoderma and Molds — Certain conditions, i.e., available free oxygen and absence of direct sunlight, may permit active growth of mycoderma scum and molds on the surface of brined and pickled material. These organisms will grow out on Acidified Dextrose Agar. Molds and yeasts can readily be distinguished by the difference in the appearance of their colonies, whereas routine differentiation of yeasts and mycoderma may present some difficulty. An estimate of the numbers of the scum-yeast group occurring in the brine or liquor sample, mostly as the result of surface scum development, can be made as follows: Surface colonies of yeasts indicative of mycoderma scum are normally flat, dull, irregular and spreading as contrasted with raised, round, white, glistening and entire brine yeast colonies. Subsurface scum yeast colonies appear white and fuzzy, whereas brine yeasts are mostly elliptical and entire. Mycoderma scum colonies when stained appear to be made up of rather large, irregular, elongated cells. In the absence of storage conditions suitable for scum growth, such colonies are rarely found.

Incubate plates 3 days at 32–35° C. and record number of yeast, mycoderma, and mold colonies per ml. of brine or liquor examined.

When yeast colonies are not well developed within 3 days, the incubation period is extended to 5 days.

(LBS) *Liver Broth Plus Salt*

Obligate Halophiles—This medium is intended for the detection of the gas-producing, Gram-negative, obligate halophilic bacteria that have been observed by the authors in dry-salted and brined corn at 17 and 21 per cent salt respectively. Either Liver Agar containing 15 per cent salt, or Liver Broth Plus Salt can be used. The liquid medium is probably more convenient to handle. The basic liver medium is prepared according to the following formula of Cameron [18]:

> Ground beef liver is mixed with water in the proportion of 500 gm. to 1,000 ml. This mixture is boiled slowly for one hour, adjusted to approximately pH 7.0, and boiled for an additional 10 minutes, after which the boiled material is pressed through cheese cloth and the liquid is made to 1,000 ml. To the broth are added 10 gm. of peptone and 1 gm. of dipotassium phosphate. The reaction is adjusted to pH 7.0 . . .

Fifteen per cent salt (c.p.) by weight is added to the broth which is readjusted to pH 7.0 and then put in 5/8" x 6" tubes containing about 1/2" of partially dried liver particles remaining from preparation of the broth. The tubes are autoclaved at 15 lb. pressure for 20 minutes. For Liver Agar add 1.25 per cent agar to the broth, bring to a boil to dissolve, tube, and sterilize. Tubes of the media, previously boiled and cooled, are inoculated with decimal dilution of the sample and sealed with 1–2 ml. of sterile, melted petroleum jelly. Positive tubes are indicated by raising of the petroleum seal due to gas production and absence of any distinctive odor.

Incubate tubes at 32–35° C. for 1 week and record positives daily.

No interference has been encountered to date by the growth of the coliforms or yeasts in this medium during the test

for obligate halophiles. Such might be anticipated, provided they were present in the sample, since both groups grow readily in fermenting vegetable brines at high salt concentration, and both are gas producers. The lack of interference is presumably due to their known inability to initiate satisfactory growth in laboratory media at even moderately high salt concentration without previous subculturing. Also, the reduced oxygen tension of the medium probably exerts a retarding effect. Nevertheless, it is desirable to make routine determinations for the yeasts and coliform bacteria, including stained preparations, on any brine that is being examined for obligate halophiles.

(LB) *Liver Broth Plus Particles (without salt)*

Butyric Acid Group — Liver Broth Plus Particles is recommended [18] for the detection of saccharolytic and putrefactive mesophilic anaerobes. For brine samples, neutralize the acidity with an excess of sterile calcium carbonate, and heat a 50 to 100 ml. sample in a water bath to 80° C. for 20 minutes so that only viable spores remain. Inoculate decimal dilutions of the heated sample into previously boiled and cooled tubes of Liver Broth Plus Particles, and stratify with melted sterile petroleum jelly or plain agar. Positive cultures are indicated by gas production and a strong butyric acid odor; the more putrefactive anaerobes give a putrid odor, and may decompose the liver particles.

Incubate tubes at 32–35° C. for one week, observe daily, and record positives.

A positive test merely gives presumptive evidence as to the presence of mesophilic, sport-forming, gas-producing anaerobes. For further information as to the saccharolytic or putrefactive nature of the cultures, specific bacteriological tests are required on the isolates from positive tubes.

It should also be pointed out that the test for growth of spores from boiled samples for certain members of this group of organisms is not necessarily a reliable index to their previous activity. Spore formation may be negligible prior to inhibition or death of the vegetative cells, due to acid production in the presence of a readily fermentable carbohydrate. Nevertheless, active growth would be associated with a malodorous fermentation.

SUMMARY OF PROCEDURE

A summarization of the bacteriological methods described herein is presented in Table 1. This information is suggested for use as a guide in the examination of certain brined, salted, and pickled vegetables and vegetable products.

REFERENCES

1. Etchells, J. L., and Jones, I. D. Pasteurization of Pickle Products. *Fruit Prod. J.*, 21:330–332 (July), 1942.

2. American Public Health Association. *Diagnostic Procedures and Reagents.* New York, N. Y., 1941. 352 pp.

3. Henrici, A. T. The Yeasts: Genetics, Cytology, Variation, Classification and Identification. *Bact. Rev.*, 5:97–179 (June), 1941.

4. Mrak, E. M., and Bonar, L. Film Yeasts from Pickle Brines. *Zentralbl. f. Bakt.*, Abt. II, 100: 289–294, 1939.

5. Veldhuis, M. K. The Preservation of Brine Samples for Chemical Analysis. *Fruit Prod. J.*, 18: 6–7 (Sept.), 1938.

6. Wang, Shu-Hsien. A Direct Smear Method for Counting Microscopic Particles in Fluid Suspension. *J. Bact.*, 42:297–319, 1941.

7. Breed, R. S. The Determination of Bacteria in Milk by Direct Microscopic Examination. *Zentralbl. f. Bakt.*, Abt. II, 30:337–340, 1911.

8. Kopeloff, N., and Cohen, P. Further Studies on a Modification of the Gram Stain. *Stain Technol.*, 3:64–69, 1928.

9. Association of Official Agricultural Chemists. *Official and Tentative Methods of Analysis . . .* (5th ed.) Washington, D. C., 1940, 757 pp.

10. Etchells, J. L., and Jones, I. D. Bacteriological Changes in Cucumber Fermentation. *Food Indust.*, 15:54–56 (Feb.), 1943.

11. Etchells, J. L., and Jones, I. D. Procedure for Pasteurizing Pickle Products. *Glass Packer*, 23: 519–523; 546 (July), 1944.

12. Etchells, J. L., and Jones, I. D. Preservation of Vegetables by Salting or Brining. *U. S. Dept. Agr. Farmers' Bull.*, 1932 (Sept.), 1943, 14 pp.

13. Noble, R. E., and Tonney, F. O. A Solid Brilliant Green Lactose Bile Medium for Direct Plating. *J. Am. Water Works A.*, 27:108–120, 1935.
14. Etchells, J. L., Fabian, F. W., and Jones, I. D. The *Aerobacter* Fermentation of Cucumbers During Salting. *Michigan Agr. Exper. Sta. Tech. Bull.* 200 (June), 1945. 56 pp.
15. Jones, I. D., Veldhuis, M. K., Etchells, J. L., and Veerhoff, O. Chemical and Bacteriological Changes in Dill-Pickle Brines During Fermentation. *Food Research*, 5:533–547 (Sept.-Oct.), 1940.
16. International Association of Milk Dealers. *Laboratory Manual* . . . Chicago, Ill., 1933. 461 pp.
17. Etchells, J. L. Incidence of Yeasts in Cucumber Fermentations. *Food Research*, 6:95–104, 1941.
18. Cameron, E. J. Report on Culture Media for Non-Acid Products. *J. Assoc. Off. Agr. Chem.*, 19: 433–438, 1936.

Mott Foundation Scholarships for Training of School Physicians

David Van der Slice, M.D., Director of the Children's Health Center of the Charles Stewart Mott Foundation of Flint, Mich., recently announced the selection of Arthur Tuuri, M.D., as the recipient of the 1946 scholarship awarded by the Foundation.

In making this announcement, Dr. Van der Slice also explained that the purpose of the scholarships is to afford means for training school physicians in public health and education to supplement the usual 2 years of training in pediatrics required for qualification for certification by the American Board of Pediatrics. One scholarship a year is awarded. The amount of the scholarship is $2,400, paid $100 a month during the period of the scholarship. During the second year of residency, courses in public health and education, totalling 12 semester hours, will be taken at the University of Michigan. These can be applied against the hours required for a graduate degree in public health.

Persons eligible for the scholarship are: citizens of the U.S.A., graduates of a Class A medical school who have completed one year of rotating internship. Applications should be made to Dr. Van der Slice at Flint, by April 1.

Following his second year of scholarship, as resident in Pediatrics, Dr. Tuuri will serve a minimum of one year as school physician in Flint as a member of the staff of the Mott Foundation sponsored school health program.

Small Sample Surveys As Adapted to a Cancer Program

EVELYN A. POTTER

Biometrician, Division of Cancer and Other Chronic Diseases, Massachusetts Department of Public Health, Boston, Mass.

A DESIRE to gauge the effectiveness of the cancer educational activities in Massachusetts, with the least expenditure of time and money, led to the adoption of the small sample survey as a feature of the Massachusetts Cancer Program.

PROGRAM ACTIVITIES

During the past twenty years a continuous effort has been made in Massachusetts to acquaint the public with pertinent facts concerning cancer. It was realized that no matter how efficient and complete were the facilities for diagnosis and treatment, the cancer mortality rate could not be reduced unless the citizens availed themselves of these services. The initial attempts at education were made through large public meetings. These stimulated interest and laid the groundwork for the more intensive type of education which has been carried on during the past ten years.

During these ten years a Cooperative Cancer Control Committee, consisting of representatives from all local organizations, was formed in every community in Massachusetts. The committees have been the nucleus of local cancer education, sharing the work of cancer control with the medical profession. All physicians were personally reached and asked if they would consent to give addresses on cancer before local organizations and societies if they were invited to do so. When assistance was requested the Cooperative Cancer Control Committees aided organizations in arranging these talks on cancer, which were included as a part of regularly scheduled meetings. Following the talks, question periods were encouraged and the informal atmosphere in these comparatively small groups was conducive to frank and impersonal discussions on the subject. This enabled the physicians to clarify the ideas which the audience expressed.

During the years of war it became increasingly difficult for the physicians to find the time for such educational activities, and other means had to be devised to bring basic and essential facts on cancer to the attention of the public. A bulletin containing news of the Cooperative Cancer Control Committees, as well as pertinent information on cancer, became one means of inspiring committees to greater activity. School programs were inaugurated to instill in young people a scientific interest so that the fears which have been prevalent would be supplanted by a hopeful attitude and an acceptance of present knowledge. Projects of local committees were encouraged, such as inaugurating essay and poster contests in the schools, publication of articles in local newspapers, programs on local radio stations, etc. Cancer symposia were sponsored by committees in several cities in order to disseminate cancer in-

formation to the public and to stimulate general interest in the subject.

EARLIER EVALUATIONS

Various evaluations of the Massachusetts Cancer Program have been made. These studies involved the analysis of a large amount of data, principally obtained from the cancer clinics. The earlier attempts to evaluate the educational phase of the program by the survey method consisted of sampling the population on a large scale in a few communities. Because of the size of the samples it was necessary to limit the number of such studies.

THE SMALL SAMPLE SURVEY

Since it was desirable to sample many communities throughout the entire state it seemed advisable to experiment with samples of various sizes in the hope that equally satisfactory results might be obtained with a smaller number of records. Ten years ago Dr. George Gallup, Director of the American Institute of Public Opinion, inaugurated the public opinion poll by which he obtained the views on various subjects of small samples of the population. Among these questions were several which sought to determine to what extent the medical profession and health authorities had been successful in their campaign to educate the people concerning cancer. Inasmuch as Gallup's small sample results were similar to the large sample results in Massachusetts, further experiments with small samples seemed warranted.

The information desired was an index of cancer knowledge in the various communities in Massachusetts, and the studies of samples of various sizes were based on questions designed to elicit the desired information. Five questions concerning cancer were used as a criterion:

1. Do you think that cancer can be cured?
2. Do you think that cancer is contagious?
3. Do you think that pain is an early symptom of cancer?
4. Do you think that germs cause cancer?
5. Do you believe that long-continued irritation causes cancer?

SAMPLING TECHNIQUE

After many experiments the following sampling technique was perfected. The map of a given city was subdivided into numerous sections. Cities with adult populations of from 10,000 to 50,000 were divided into fifty to sixty sections. The number of sections was increased in large cities. With the necessity of adjustments, described later, it seemed unwise to work with a sample of less than 500 records, and although the smallest city surveyed to date had over 10,000 adults, if in the future smaller communities are surveyed the sample will be not less than 500. This figure was determined after experimenting with samples of different sizes from one community. Here 1,790 individuals were sampled and averages computed on the basis of the first 100, 200, etc. The results indicate that the standard errors become so large in the smaller samples that it would be unwise to use samples of less than 500 when adjustments have to be made. As small differences between cities are of no particular importance in cancer control, a sample of this size seems adequate. If, however, one desired to measure very small differences between cities, larger samples would be necessary.

TABLE 1

Average Number of Questions Answered Correctly in Different Sized Samples from the Same City

Size of Sample	*Average Number of Questions Answered Correctly*
First 100	2.75 ± .15
" 200	2.69 ± .10
" 300	2.77 ± .08
" 400	2.83 ± .07
" 500	2.85 ± .06
" 600	2.81 ± .06
" 900	2.76 ± .05
1790	2.83 ± .03

TABLE 2

Average Number of Questions Answered Correctly, by Broad Age Groups, and Adjusted Averages *

	Size of Sample	Adult Population of Cities in Thousands	Young 21–44 Years	Middle aged 45–64 Years	Old 65+ Years	Adjusted Averages
City A	556	11	3.26 ± .09	3.25 ± .09	2.69 ± .11	3.22 ± .05
City B	910	104	3.25 ± .06	3.05 ± .07	2.52 ± .09	3.13 ± .04
City C	670	33	3.17 ± .08	3.00 ± .08	2.58 ± .10	3.05 ± .05
City D	600	39	2.92 ± .08	2.69 ± .09	2.40 ± .12	2.78 ± .05
City E	530	15	2.77 ± .10	2.48 ± .11	2.14 ± .11	2.58 ± .06

* The standard deviation of the mean was computed employing a weighted standard deviation. The weighted standard deviations of the adjusted averages were formed by taking the square root of the sum of the weighted standard deviations squared, of each of the age groups, using the same weights as were used in forming the adjusted averages.

In each of the aforementioned sections ten houses were selected and one adult in each house was interviewed. An effort was made to make these samples as representative of each section as possible, but a certain amount of bias would be inevitable. For example, return visits were not made when the first call at a house was not productive; and when there was a response, the questions were asked of whichever adult came to the door. This method of sampling from a practical point of view was rapid and reasonably inexpensive. The average surveyor could complete thirty schedules a day, while the expert surveyor could average forty. The schedules included, in addition to the questions regarding the individual's knowledge of cancer, additional items regarding the source of this knowledge, his or her age, sex, and economic status, and knowledge of local and state cancer control measures.

The schedules were sorted into age and sex groups. For the purposes of this study it was felt that three broad age groups would be sufficient—the young adults 21–44 years of age, the middle-aged from 45 to 64 years, and the elderly 65 years and over. The average number of questions answered correctly was computed for each group, together with the standard error of the mean. These averages were weighted according to the percentage of the total population in each group in the city under consideration. These will be designated as adjusted averages. The method used was identical with that employed in obtaining an adjusted rate, with the exception that specific averages rather than specific rates were used. The combination of small samples from multiple sections of the city, together with adjustments for items known to show bias, furnished what is believed to be a fair estimate of cancer knowledge in an individual city. The earlier surveys demonstrated that the relative knowledge of cancer was not affected by the sex or economic status of the individuals interviewed, and in the later surveys adjustments based on these variables were omitted, limiting the adjustment to age.

FIVE CITIES SURVEYED

These five cities fall into two groups. A,B,C, and D,E. The difference between the two groups demonstrated by the adjusted averages, is what would be expected based on a knowledge of the amount of cancer activities which have been conducted in these communities.

SOURCES OF INFORMATION

In an effort to determine the value of the various cancer educational media each individual was asked about the sources of his information. All schedules were sorted into six groups

TABLE 3

Regression of Percentages of Sources of Information on Measurement Units of Knowledge

No. of Questions Answered Correctly	Authoritative Word	Reading	Close Contact	Hearsay
0	1.6	12.8	6.5	43.8
1	3.0	23.5	18.2	42.9
2	5.1	37.7	23.1	35.8
3	5.6	44.1	24.3	36.7
4	9.6	53.9	26.7	31.1
5	13.0	60.2	22.2	28.3
Regression percentages *	49.4	34.5	17.7	— 8.5

* These are logarithmic regressions. The arithmetic regressions were computed also, with similar results.

indicating the degrees of knowledge—those answering five questions correctly, four, three, two, one, and none. Each of these groups was subsorted according to the source of information, and rates were computed.

Table 3 shows the rates for various sources of information in each of the six measurement units of knowledge. The regression of these percentages on the number of questions answered correctly shows that the authoritative word, which includes radio addresses, lectures, and information received from physicians, increased more rapidly than did reading, which includes books, magazines, pamphlets, and newspapers. On the other hand, a much larger percentage of the population was influenced by reading than by the authoritative word. In these five cities 43.4 per cent of the population cited reading as a source of their information, whereas only 7.0 per cent cited the authoritative word. In a previous study, with fewer statistical refinements, reading was found to be of greater value than any other source of information. This is still true if the number of people affected are the criterion of judgment, but if educational methods could make the listeners equal to the number of readers the authoritative word would be a superior medium.

One of the surprising findings in the surveys was that only eight individuals mentioned visual devices as a source of information. Movies, posters and exhibits were listed in this category. In one city where a cancer movie had been shown on many occasions only two individuals out of a total of 530 mentioned this source of information. In another city where a school program had been in operation in the eighth grade for two years, only a small percentage of the sampled population knew of its existence. This indicates the need for a rounded program of education, rather than concentration of effort along one line, if tangible results are to be obtained from cancer educational activities.

CONCLUSIONS

1. The house-to-house survey, utilizing a sample of 500, is a satisfactory method of securing an index of cancer knowledge in the average community, although it is probable that a larger sample would be essential in very large cities.

2. The most important media for the dissemination of information on cancer were: lectures, radio addresses, discussions with physicians, and literature.

NOTE: Acknowledgment is made to Dr. Carl R. Doering and Dr. Herbert L. Lombard for reading this paper and offering suggestions in regard to it; but this statement should not be taken as transferring to them any responsibility for the correctness of the material or the results. Recognition is also due the surveyors and those members of the staff of the Division of Cancer and Other Chronic Diseases who have rendered assistance.

REFERENCES

Gallup, George. Survey Shows Progress and Need

in Education. *National Bulletin of the American Society for the Control of Cancer*, 22:5 (May), 1940.

Guernsey, Paul D. The Modern Public Opinion Poll: A Means of Defining and Appraising Community Health Education Problems. *A.J.P.H.*, 32:9 (Sept.), 1942.

Lombard, Herbert L., Tully, Mildred R., and Potter, Evelyn A. Evaluation of the Cancer Educational Program in Massachusetts. *Human Biol.*, 16:2 (May), 1944.

Massachusetts Department of Public Health *Annual Reports.*

Socio-economic Status of Nurses

Nursing shortages arising during the war and still continuing and national plans for expanded health facilities requiring increasing numbers of nurses furnish the impetus for a study of the socio-economic status of nurses. The study is being undertaken by the U. S. Bureau of Labor Statistics at the request of the Planning Committee of the National Nursing Council, a coördinating agency that includes the national nursing and other organizations directly interested in nursing problems.

Questionnaires will be sent to a large representative sampling of nurses in all parts of the country and in all types of nursing. Questions on salaries, hours, working conditions, and job attitudes will be included. In addition, personnel interviews will be held with a smaller sampling of nurses to pursue such problems as why nurses leave the profession for other fields and the reasons for the extensive job turnover within the profession.

In announcing the study, Margaret Reid, Chairman of the Planning Committee explained that the Council turned to the Bureau of Labor Statistics as an impartial, fact finding agency with experience in such programs and trained personnel throughout the country. The nursing profession itself, however, will assume responsibility for establishing professional standards based on the findings. Said Miss Reid, "Each nurse who receives a questionnaire has a serious responsibility to answer promptly and fully, for her report on her own experiences will represent a number of nurses beside herself. It is significant that in this instance the nurse herself, rather than her employer or the public, is being asked how she feels about her work."

Contributions of War Experience to Our Knowledge of Mental Hygiene

GEORGE S. STEVENSON, M.D.

Medical Director, The National Committee for Mental Hygiene, Inc., New York, N. Y.

IT is perhaps too early to record all the changes in mental hygiene wrought by the war. Some we know are still in process, others we suspect are too subtle to have yet been sensed. Many of the things that have been talked about were civilian processes turned for the first time to use in the armed forces. The war at least dramatized them. Some of these were further developed. Perhaps this is as far as one dare go in a field whose growth is evolutionary. Four years is a short time to create, validate, and establish new processes.

Introduction into the armed forces is somewhat akin to transplantation of a person into a different culture. The situation is different, the position of authority is different, and the cultural supports that one unconsciously has come to depend upon in his home community are suddenly removed. As a result strange things happen, bewildering to the person and to those about him. The very presence of alterations of behavior as persons pass from civilian life to our armed forces brings us face to face with the fact that for lack of perspective we have ignored or taken for granted forces in the community that have high potential. If these were described and studied, perhaps we could use them.

Possibly the most significant advance could be labeled "increased recognition for psychiatry and mental hygiene." In the armed forces this appeared on the technical side and has been supported by corresponding administration changes. There was the effort expended by Selective Service to secure the history of registrants so that the induction examinations could be more accurate. This had its counterpart in the response of thousands of volunteers as medical field agents before this medical survey could be carried out. There was the approval of the Bureau of the Budget necessary to the use of record and forms. There was the corresponding official direction and organization and supervision in the induction station that made use of this history. It was something new and experimental to secure history on a nation-wide basis, and it proved practicable even if as yet imperfect. If we need to do this again for military or civilian purposes we shall not need to start from scratch.

Further evidencing this recognition was the demand made upon psychiatry by other branches of medicine, by those in charge of military prisoners, by military courts, in discipline, in training centers, and in other non-medical military functions. These were chiefly applications of peacetime knowledge and organization in a new location, but the new location engendered changes that have potential civilian value. With the authority fully at hand, experimentation with offenders was easier. Psychiatric examining was facilitated and

the allocation of prisoners to rehabilitation units was easy. As a result many were saved the disgrace and discomfort of dishonorable discharge and imprisonment and were restored to status and finally discharged with honor. The country was saved much man power and many resentful and revengeful men. We learned some new techniques, but, more important, we created evidence in support of their use.

Psychiatry was given a fair hand in doing its job with psychoses, considering that its greatest limitations were the aim of diagnoses rather than treatment and the shortage of psychiatric personnel. The frequency of convulsive attacks in brain injured cases offers a warning to those who would invade that organ that they should proceed with humility.

Perhaps it was in the handling of the neuroses that psychiatry secured its greatest recognition and opportunity to work close to the rest of medicine. Many cases heretofore considered entirely organic or surgical were seen to have a psychiatric component and were handled jointly, or else became the primary responsibility of psychiatry, as the personal and situational element in the etiology appeared large. Gastric ulcer was a case in point.

The war has given us an unusual opportunity to study and evaluate the psychological significance of medical problems that have long been dealt with as though they had no special psychological significance. It has come to be recognized, for example, that a severe illness or injury such as a fracture may have the same psychological value in the adjustment of a person as does a hysterical paralysis. As a result it is found that the man brought in from line of combat with often very severe injuries is astonishingly calm, and only when the reparative processes restore him to normal functioning does the anxiety that one might have expected to appear as a result of his experience come to evidence. This same anxiety appears as a patient with a hysterical disorder loses his hysterical symptom, amnesia, paralysis, and the like.

As a result of the intimate working relation between general medicine and surgery and psychiatry during the war, certain new steps have been taken looking toward the strengthening of the general physician for meeting the psychiatric problems which he inevitably faces.

West Virginia, under the encouragement of an army psychiatrist, has undertaken to carry on a training institute for its general practitioners; and in Minnesota a two weeks institute was held as a formal part of the postgraduate training program at the University of Minnesota in April, 1946. This latter is an outgrowth of a conference held in Hershey, Pa., early in 1945, between psychiatrists and internists, at which steps were planned to strengthen the hand of the general physician in dealing with veterans who will come to him with psychiatric disorders. Also a number of medical schools are considering the revamping of their psychiatric teaching programs in order that they may serve this same value.

It is recognized that the physician must inevitably meet anxiety in his patients and that his handling of this anxiety may be either to the patient's benefit or otherwise. It is recognized also that the physician must inevitably interview or talk with patients and that psychiatry which has given special attention to the dynamics of interviewing has something to offer at this point.

A retrospective study of many patients who broke down psychiatrically within the armed forces revealed the fact that their disorders began prior to enlistment, but were so unobtrusive as to demand no special attention. This experience has clarified the identity of subclinical illnesses in the psychiatric

field comparable to that existent in other medical fields.

Most cases of neuroses were recognized as aggravations of civilian disorders and were differentiated with perhaps some uncertainty on the borderline from essentially military neuroses engendered by conditions not found in civilian life. A study of breakdowns has also shown that there is a close relationship between breakdown and morale, and it has tended to elucidate the factors that enter into the production of low morale. In the effort to raise morale in the armed forces no small amount of attention has been given to the development of the feeling of hate toward the enemy. The British Army, however, has come to be somewhat skeptical about the strength of morale that is engendered by the artificial creation of the feeling of hate, since it is apt to be attended with seriously mixed feelings.

The importance of prompt, intensive treatment close to the site of origin, of avoiding hospitalization, and the dangers of reëxposure were not new but had also previously not been so well tested. New adjuncts of therapy, hypnosis, narcosis as a treatment, narcosis as an adjunct to psychotherapy, psychotherapy in groups by a variety of techniques, have had their measure taken and value clarified.

Outpatient psychiatry in the war was initially an application of well validated peacetime patterns, but it came upon new conditions, saw the need for new departures, and conquered the obstacles. It found that psychiatric social work in the armed forces was not only unknown, but unwelcome in spite of the existence of some 250 social case work personnel already in service. It found many of these social workers, brought them into social work function under various pretexts and names, whereby their works sold themselves. It secured for them a formal recognition as an essential job within the military framework, and at least in part a place of officer status. Many, however, were finally discharged as enlisted men who had rejected officer status which would have drawn them outside their own field.

Outpatient psychiatry also discovered that if it had something of scientific validity to offer it could make constructive use of a half-hour if that was all the time available, without degenerating to the slap on the back and exhortation to "be calm," "don't worry," "keep the chin up," etc. It has been found that the successful handling of a minute problem of today is of deep value to a patient in strengthening him with respect to his quandaries of yesterday and his prospects of tomorrow, even if the past and future are never touched upon in his contact with a psychiatrist.

Outpatient psychiatry is better prepared for the future to be of value. Being in the armed services, it had to do its best with all comers (all who were sent) and it had to write into the equation the job, the training, the social evulsion, and all other evident factors. It can use that experience to great advantage hereafter.

The counterpart of all this on the administrative side was found in the appointment of psychiatric chiefs of high rank in the three services—a Brigadier General in the Army. Consultants were supplied to each Service Command and theaters (colonels). There were training centers designed to prepare young doctors to practise military psychiatry. The courses were short but they were seriously conceived and carefully designed, and more men came under well designed training than has been the case in the past in so short a time. They lacked experience with problems of aging and the psychiatric problems of women, but they are on their way to a well founded professional career and know the difference between

training and cheap labor. The needs of veterans have forced the Veterans Administration to take up the task of training with the longer, more permanent view and the Veterans Administration is apparently on its way to leaven the field of psychiatric education. This activity for the Veterans Administration is especially significant for if it establishes sound working relationships with civilian psychiatry, it has adopted a pattern of partnership with community services which it may follow in the conduct of its work, whether medical or otherwise.

The war has offered many tests to our civilian psychiatric institutions because of the shortage of personnel and other facilities. The utilization of conscientious objectors as attendants in these hospitals has shown how good a job can be done if attendant personnel of high caliber is used. The use of conscientious objectors has also revealed to us in a way that no survey or administrative investigation could, how serious has been the mishandling of patients in many hospitals. As a result of this, one state, Ohio, is completely reorganizing its state program.

In meeting problems of selection, diagnosis, allocation, and training of personnel, scientists experienced in psychological training have devised methods that have done much to guide the effective application of psychiatric effort. In addition this work has done much to enhance mental health in other departments of military organization quite apart from psychiatric and other medical services. Moving pictures and other visual aids have been especially developed as educational instruments. With a greater amount of money available for this sort of thing, the war has taught us much about what can be done.

Not only in the armed services, but also in civilian life the conservation and full utilization of man power has been highly developed. The handicapped accumulated on the civilian side and all civilian employers stretched themselves to make maximum use of formerly outcast personnel. They proceeded on a man to man basis in this and not as a charity. They found that, intelligently employed, the handicapped gave adequate measure of return. They found in fact that the peculiar sensitivities of the psychoneurotic properly placed could be turned to positive advantage.

Especially sobering and psychiatrically revealing has been our experience with the populace of an authoritarian country. It has been frequently observed in reports that it is practically impossible to arouse any sense of guilt in the common man for the atrocities committed by his government. We go on the principle that in a democracy, government is the people and people must have a conscience about government and guilt about its wrongs. It is an ideal which we strive to approach, but which we expect in 1946 will be only imperfectly realized. Yet those of us who are in health and welfare fields are keenly aware of the shortcomings of conscience and the absence of guilt for the neglect of human beings in our society. It reveals how hard we must work to move toward our democratic goal and avoid that abandonment of conscience that signalizes its opposite. It reveals also that those dealing in the public health, who see the bandy legs of our disrobed culture, are in a position as well to be statesmen—social orthopedists if you will.

Treatment of *Pediculus capitis* in School Children with DDT Powder

ALBERT D. KAISER, M.D., F.A.P.H.A.

Health Officer, Rochester, N. Y.

PEDICULUS CAPITIS is a common complaint among school children. It is not only an annoying condition to those infected and a menace to children whose home conditions are good, but it is responsible for many days of absenteeism from school. In the Rochester schools during the 1944 and 1945 session it was the second greatest cause of absenteeism.

The louse deposits its eggs firmly fastened to the hair. The incubation period of the egg is 7 to 10 days. Then follow three larval molts before maturity, with no pupal stage. The complete developmental cycle is 16 days, and the average life of a louse is 1 month. The larvae must have food frequently to survive. They live chiefly on human blood. If well fed, the louse can live for 10 days without food while separated from its host.

The head louse is the bane of the school nurse. It is spread by direct contact from child to child or from an adult to a child. The head louse is eliminated easily. The usual methods employed are successful in killing the head louse if thoroughly applied, but frequently the treatment is not completed and recurrences are common. Children have been excluded from school until the pediculi have been removed and until no nits or eggs are detected in the hair. In many instances the children were readmitted to the school apparently free from pediculi but in a few weeks the same condition of infestation was evident. This was usually due to reinfection from a home contact or from the hatching of undetected eggs.

To simplify the treatment and control the source of contact, a preparation of DDT powder (10 parts DDT and 90 parts inert powdered talc) was utilized. Head inspections were made by the school nurse on all children in a grade and the infected child was treated by the school nurse. Utilizing a small atomizer, the DDT powder was sprayed on the child's hair, a paper towel being placed over the eyes to prevent any irritation. A towel or kerchief was placed over the scalp to prevent the loss of the powder and to hold the lice that came to the surface and the child was sent home with instructions to keep the head covered until bedtime. In the morning the hair was combed with a fine comb to remove the dead lice and as many eggs as possible.

The child is permitted to return to school the next day following an inspection by the nurse. Even if the nits are not all combed out, the child remains in school and receives daily inspections until the 7th day, when another application of DDT powder is made, following a shampoo given the previous evening. At the end of the second week another inspection follows. If any nits are detected, a third application of DDT powder is made. Frequently this third application is unnecessary.

In the meantime the nurse has visited

the home to inspect all other members of the family. If any member, child or adult, is found to harbor pediculi the same treatment is advocated for the individual not attending school. The nurse will give one demonstration treatment in the home with instructions how to proceed for follow-up care. In no case does the nurse apply DDT powder without the written consent of the parent.

The results have been most satisfactory. In all cases treated, the live pediculi have been promptly killed, usually within 2 hours. The removal of the nits has been thorough in many instances but incomplete in others. Thus far the treated cases have shown no recurrences within 4 weeks, which would seem to indicate that the repeated treatments have been effective in either destroying the eggs or in retarding their developmental cycle.

Subsequently a few children have been reinfected but in all such instances they experienced a fresh exposure usually from an untreated case in the home. A marked diminution in the number of children with live pediculi has been noted in the schools where this method has been employed. The number of days of absenteeism has been reduced to an average of one day per child.

There have been no ill effects of any kind thus far and the treatment has evoked no resistance on the part of the children or adults so treated. In some instances parents have refused the treatment with the fear that DDT is dangerous. Ultimately this fear may be overcome but at present no pressure is used to force this method of treatment on any individual.

Thus far 350 children have been treated. None of the children developed recurrences of live pediculi within a 4 weeks period. Twelve children were later found to have live pediculi but their infection was from an untreated source in the home.

The experiences of the nurses are uniformly the same. They all testify that the method is easy and requires less effort than the use of larkspur or kerosene. The coöperation of the children and most of the parents has been readily obtained for the results are quick and certain. A routine procedure has now been established in all of the Rochester schools. It is felt that the incidence of *pediculus capitis* will be materially lessened if constant inspection and treatment are employed.

Eight Years' Experience in the Licensing of Clinical Laboratory Technicians

MALCOLM H. MERRILL, M.D., F.A.P.H.A.

Chief, Division of Laboratories, State Department of Public Health, Berkeley, Calif.

A LAW requiring the licensing of clinical laboratory technicians was passed by the California legislature in 1937 and became operative on January 1, 1938. Licensing under its provision was initiated in May, 1939. Under this Act it is "unlawful for any person in a clinical laboratory to make any test or examination requiring the application of one or more of the fundamental sciences such as bacteriology, biochemistry, serology, and parasitology, unless said person possesses an unrevoked certificate issued by the State Board of Public Health as a qualified technician in the subject or subjects concerned with the test or examination." * The law provided for the blanketing in of technicians who had been engaged in such work for three of the five years immediately preceding the effective date of the Act. It assigned to the State Board of Public Health the administration of the Act and the right to make rules and regulations necessary for its administration. It provided for the examination and certification of technicians in accordance with regulations of the board. Examination and certification fees were provided for and penalties for violation stated. It permitted the issuance of temporary licenses and provided for revocation of licenses for cause. Licenses are automatically revoked by failure to pay the annual fee of one dollar within sixty days after January 1. It made possible the employment of apprentice technicians but limited the number to one apprentice in laboratories having one licensed technician and not more than two apprentices in laboratories having two or more. State and federal laboratories were exempt from the provisions of the law.

* Quoted from the original act comprising Chapter 804, Statutes of 1937 which were codified in 1941 and added to Business and Professions Code, Division 2, Chapter 3, Section 1200 to 1305 inclusive.

THE BACKGROUND

In recognition of the importance of laboratory work to the health of the citizenry of the state, the State Board of Health as long ago as 1923 authorized the Director of the State Hygienic Laboratory to inaugurate a system of inspection and certification of diagnostic laboratories, both public and private. The first five years' experience in this program has been described by Kellogg.[1] A voluntary system of approval of laboratories and of examining and certifying clinical and public health laboratory technicians was adopted under the able guidance of Dr. W. H. Kellogg, who carried the work forward until his retirement in 1941. This voluntary system had become generally accepted by laboratory technicians throughout the state when the law was proposed. The law in effect thus

legalized and made generally applicable a system of examination and certification that had already been operative on a voluntary basis for a considerable proportion of the laboratory technicians.

ADMINISTRATION

The responsibility for the administration of the act was delegated to the Division of Laboratories, the Chief of the Division being the administrative officer. In 1941 the Board of Health appointed two advisory committees of five members each to assist in the examination of candidates for licensure. The committees represent the two major metropolitan areas of the state. Members serve without pay.

Each committee is composed of two pathologists, one representative from a university, one laboratory director who is not a licensed physician, and one clinical laboratory technician. These committees meet four times a year, that is, preceding and following each of the two examinations. One full-time field representative and one clerk of the Division of Laboratories assist in the administration of the Act. The field representative visits laboratories, checking on personnel, techniques, and facilities, and assists in various phases of the program of examining and certifying technicians.

INITIATION OF CERTIFICATION

As indicated above, the State Division of Laboratories had been conducting examinations on a voluntary basis for several years before the law became operative. During this time examinations had been given in the individual subjects of bacteriology, serology, parasitology, and biochemistry including hematology. As candidates passed these subjects they were issued certificates of proficiency.

At the time the law became operative, technicians holding any three certificates were issued a comprehensive license as a clinical laboratory technician. Those holding two or fewer were issued licenses for the respective fields of activity for which they held certificates of proficiency, e.g., bacteriology, serology, etc. These latter licentiates were permitted to take examinations in the deficient subject or subjects upon successful completion of which they were granted comprehensive certificates. Examinations in individual subjects were continued until August, 1943. Since that time all candidates have been required to take the complete examination covering the fields of bacteriology, serology, parasitology, biochemistry, and hematology.

Those who had no certificates of proficiency at the time the law became operative and who had been engaged in performing tests in a clinical laboratory for three years within the preceding five years, one year of which was in California, were, upon application, granted "limited certificates" for the type of work they had been actually doing. The certificates listed the procedures covered by their licenses.

It is thus seen that there was an actual blanketing in of all technicians who had been previously engaged for a minimum of three years in clinical laboratory work. However, comprehensive certificates were issued only to candidates who had successfully passed the required examinations.

QUALIFICATIONS FOR ADMISSION TO EXAMINATIONS

The law as initially passed made no formal educational requirements for admission to the examinations. These were established by regulation of the State Board of Public Health as three years of apprenticeship training in a laboratory providing diversified experience, or a college degree with a major in bacteriology or biochemistry, or essential equivalent, plus one year of experience. In August, 1945, these

qualifications were amended to require completion of a four year college curriculum in clinical laboratory technique or a four year college course with major in bacteriology, biochemistry, or essential equivalent plus one year of apprenticeship training or five years of apprenticeship training. In the latter case university work in the fundamental sciences may be substituted in the ratio of 30 semester hours for each year of experience.

Under these amended regulations it will be noted that a license can be acquired in four years after graduation from high school by completion of a college curriculum in this field.*

EXAMINATION PROCEDURE

The examinations have all been of the objective true-false, multiple-choice type. They have been distributed among the four subjects of bacteriology, serology, parasitology, and biochemistry including hematology, twice as many questions being given in biochemistry as in each of the other three subjects. As indicated above, candidates were permitted to take examinations in individual subjects until August, 1943. Of the 1,361 comprehensive licenses issued to December 31, 1945, 432, or 32 per cent, were issued following examinations in individual subjects.

CERTIFICATES ISSUED

The total licensees to December 31, 1945, are shown in Table 1. These are analyzed by sex to show the number issued limited licenses, under the blanketing-in provisions of the law, the number initially licensed through examinations taken prior to 1939, and the number licensed by examination since May, 1939. Of 1,752 certificates issued, 259, or 15 per cent, were to men and 1,493, or 85 per cent, to women. There has been a marked decrease in the proportion of men since 1939. In 1944 only 7 per cent of licenses were issued to men. This increased to 10 per cent in 1945.

TABLE 1

Limited and Clinical Laboratory Technicians' Licenses Issued January 1, 1938, to December 31, 1945, by Sex

	Male		*Female*		
Type of License	*Number*	*Per cent*	*Number*	*Per cent*	*Total*
Limited (Without Examination)	82	21.0	309	79.0	391
Clinical Laboratory Technician Initially Licensed (Examination prior to 1939)	42	20.0	168	80.0	210
Clinical Laboratory Technician Subsequently Licensed (Examination under the 1939 Law)	135	11.7	1,016	88.3	1,151
Total	259	14.8	1,493	85.2	1,752

AGE DISTRIBUTION OF LICENTIATES

Table 2 shows the age distribution of 1,353 licentiates who received their full clinical laboratory technician licenses, showing those initially and subsequently licensed. Thirty per cent of those initially as contrasted with 44 per cent of those subsequently licensed were in the 20 to 24 age group. Forty-two per cent of all licentiates were less than 25 years old when licensed. In general, men were slightly older than women. In the group subsequently licensed the mean age for men was 29 years, for

* Such a curriculum is now offered by the University of California, University of Southern California, and the College of Medical Evangelists.

TABLE 2

Age at Time of Licensing of 1,353 Clinical Laboratory Technicians Licensed May 1, 1939–December 31, 1945

Age When Licensed	Initially Licensed		Subsequently Licensed		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Under 20 years	..	....	1	0.1	1	0.1
20–24 "	61	29.6	504	43.9	565	41.8
25–29 "	61	29.6	297	25.9	358	26.4
30–34 "	39	18.9	156	13.6	195	14.4
35–39 "	28	13.6	103	9.0	131	9.7
40 years and over	17	8.3	86	7.5	103	7.6
Total	206	100.0	1,147	100.0	1,353	100.0

women 27; the respective medians were 27 and 25.

LICENSES BECOMING INACTIVE SINCE 1938

The law provides that failure to pay the annual license fee within 60 days after the beginning of the year shall automatically cancel any license. However, by regulation of the Board of Health, reinstatement is possible by payment of a fine plus lapsed fees. Of the 1,361 licenses issued, 1,109, or 82 per cent, were still active in 1945. Of the 210 licenses initially issued, 119, or 57 per cent, were still active. The lapse of licenses was significantly greater among men than women. Only 112, or 63 per cent, of 177 licenses issued to men, while 997, or 84 per cent, of 1,184 issued to women, were in effect in 1945. The war may be largely responsible for this difference, as fees were waived during military service and reinstatement is automatic upon return to civilian life and payment of the current year's fee.

EDUCATIONAL BACKGROUND OF LICENTIATES

The basic educational qualifications of the 1,361 licentiates at the time the licenses were issued and year of licensing are shown in Table 3. At the time the licenses were issued 69 per cent had a college degree or more and 86 per cent had at least two years of college work. Only 8 per cent had no college credits.

Until 1941 there was a progressive increase in the proportion of licentiates with college degrees, reaching 78 per cent in 1941. In 1942, however, there was a significant recession in this proportion with gradual recovery since that time. Several factors may have played a part in these changes. First, there has been a definite migration into California of out-of-state technicians who qualify for admission to examination on the basis of experience; second,

TABLE 3

Extent of College Work of 1,361 Clinical Laboratory Technicians Licensed Each Year, 1939–1945

Year Licensed	Total Licensed	A.B., B.S., or More		3 Years College		2 Years College		1 Year College		No College	
		No.	%	No.	%	No.	%	No.	%	No.	%
1939	330	223	67.6	39	11.8	26	7.9	11	3.3	31	9.4
1940	207	148	71.5	20	9.7	12	5.8	10	4.8	17	8.2
1941	166	129	77.8	10	6.0	10	6.0	5	3.0	12	7.2
1942	139	87	62.7	12	8.6	16	11.5	12	8.6	12	8.6
1943	181	120	66.3	20	11.0	12	6.6	13	7.2	16	8.9
1944	153	104	68.0	7	4.6	17	11.1	18	11.7	7	4.6
1945	185	130	70.3	16	8.6	14	7.6	7	3.8	18	9.7
Total	1,361	941	69.1	124	9.1	107	7.9	76	5.6	113	8.3

TABLE 4

Years of Laboratory Experience of 1,319 Clinical Laboratory Technicians at Time Licensed, Each Year; 1939–1945

Year Licensed	Total Licensed	1 Year		2 Years		3 and 4 Years		5 or More Years	
		No.	%	No.	%	No.	%	No.	%
1939	319	56	17.6	25	7.8	82	25.7	156	48.9
1940	193	14	7.2	15	7.8	69	35.8	95	49.2
1941	161	10	6.2	30	18.6	60	37.3	61	37.9
1942	134	16	11.9	34	25.4	27	20.2	57	42.5
1943	175	47	26.8	29	16.6	29	16.6	70	40.0
1944	153	43	28.1	21	13.7	43	28.1	46	30.1
1945	184	59	32.1	24	13.0	42	22.8	59	32.1
Total	1,319	245	18.6	178	13.5	352	26.7	544	41.2

there has been some relaxation in the stringency of examinations to meet the wartime shortage of technician personnel; third, there has been a decrease in the number of graduates in this field from universities in California. Along with the decrease in educational qualifications there has been an actual decrease in the number of licenses issued during the war years.

LABORATORY EXPERIENCE OF LICENTIATES

Since it is still possible to become a licensed technician in California by way of apprenticeship training, it is of interest to note the experience history of licentiates at the time licenses were issued. The number of years of experience in laboratory work is shown in Table 4. Nineteen per cent of 1,319 licentiates had only one year of experience; another 14 per cent had two years. The per cent having the minimum of one year has increased progressively from 6 to 32 per cent since 1941. Fifty-nine per cent of the licentiates had less than 5 years of laboratory experience. Women in general had less experience than men. This would be expected since a larger percentage of women had formal university training.

NATURE OF COLLEGIATE TRAINING

It has already been noted that 69 per cent of licentiates had college degrees at the time of admission to the examination. Table 5 shows the college majors reported on the application forms of the candidates. Eight per cent of 925 college graduates had collegiate training specifically designed for the professional work for which they were being licensed. However, students with major work in bacteriology, public health, and biochemistry had specific training in

TABLE 5

College Major of 925 College Graduates Licensed as Clinical Laboratory Technicians, 1939–1945

College Major	Male		Female		Total	
	Number	Per cent	Number	Per cent	Number	Per cent
Bacteriology	35	40.3	296	35.3	331	35.8
Chemistry	6	6.9	83	9.9	89	9.6
Public Health	5	5.7	83	9.9	88	9.5
Biology	6	6.9	70	8.3	76	8.2
Medical Technology	..	....	74	8.8	74	8.0
Zoology	12	13.8	56	6.7	68	7.4
Medicine	6	6.9	34	4.1	40	4.3
General Science	3	3.4	32	3.8	35	3.8
Biochemistry	4	4.6	29	3.5	33	3.6
Other	10	11.5	81	9.7	91	9.8
Total	87	100.0	838	100.0	925	100.0

TABLE 6

876 Clinical Laboratory Technicians Licensed 1939–1945, Classified by Colleges Conferring Degrees

College or State	*Number*	*Per cent*
California	*520*	*59.3*
University of California	314	60.4
University of California at Los Angeles	63	12.1
Stanford University	49	9.4
University of Southern California	27	5.2
Other California Schools	67	12.9
Other States	*356*	*39.1*
Minnesota	57	6.5
Washington	29	3.3
Kansas	27	3.1
Colorado	22	2.5
New York	22	2.5
Montana	17	1.9
Michigan	13	1.5
Ohio	13	1.5
Wisconsin	13	1.5
Iowa	12	1.4
Oregon	11	1.3
Utah	11	1.3
Missouri	10	1.1
27 Other States	85	9.7
Other Countries	*14*	*1.6*
Total	876	100.0

certain fields of clinical laboratory work. In a small but undetermined number of instances, these graduates had received formal training in the five fields of laboratory technique covered by the examinations. To a lesser degree this is true of majors in chemistry, zoölogy, biology, and medicine or pre-medical courses. In the aggregate this group comprises 799 licentiates, or 86 per cent, of the 925 college graduates and 59 per cent of all licentiates. In summary then, 6 per cent of licentiates had collegiate courses specifically designed to prepare them for clinical laboratory work and 59 per cent courses of study related in varying degrees.

PLACE OF COLLEGIATE TRAINING

Table 6 shows the colleges from which degrees were obtained. Schools in California are specifically noted; otherwise only the name of the state or foreign country is given. Fifty-nine per cent of 876 licentiates were graduated from California schools, the University of California contributing 60 per cent of the state's total. Among others, the largest number was from Minnesota, the majority being from the University of Minnesota with major work in medical technology. Thirty-nine other states were represented and 14 candidates had their college work outside of the United States.

RELATION OF FORMAL TRAINING TO ABILITY TO PASS STATE LICENSING EXAMINATION

The licensing system in use has provided an opportunity to observe the effect of formal schooling upon ability to pass the written examination given by the State Health Department. The results of the last nine examinations are summarized in Table 7. Of all candidates admitted to the examination 76 per cent received a passing grade.

Here a comparison is made only of those candidates who did or did not have college degrees. No attempt is made to classify the college graduates by the nature of their college work. In

TABLE 7

Relation of College Training to Standing of Candidates in Licensing Examinations, December, 1941–December, 1945

	College Degree		*No College Degree*		*Total*	
Standing	*Number*	*Per cent*	*Number*	*Per cent*	*Number*	*Per cent*
Upper Third	225	44.9	69	17.0	324	33.3
Middle Third	201	35.5	123	30.2	324	33.3
Lower Third	111	19.6	215	52.8	326	33.4
Total	567	100.0	407	100.0	974	100.0
Passed	490	86.4	251	61.7	741	76.1
Failed	77	13.6	156	38.3	233	23.9

the non-graduate group are included individuals with varying amounts of college work. The upper part of the table shows the relative standing of the two groups in the examinations; the lower shows number and per cent that passed and failed. Of the 77 college graduates who failed to pass the examinations, only three had received college training primarily in the field of clinical laboratory technique. In other words, formal collegiate training in the general field of clinical laboratory work practically assured ability to pass the examination. Both from the standpoint of relative place in the examination and ability to pass the examination, the college trained candidates did much better than those with less formal training.

LIMITED LICENSES ISSUED

As already stated, the law provided for the blanketing in of technicians who had been engaged in laboratory work for three of the five years immediately preceding the effective date of the Act. Under this provision 391 "limited certificates" were issued permitting the technicians to continue doing only those procedures they had been carrying on prior to the adoption of the law. One-fourth of these certificates have since become inactive, and nearly one-fourth of the original licentiates have obtained the full clinical laboratory technician's license. Fifty-two per cent were still active in 1945. A tabulation of age at licensure shows that the average age of the group was 35 for males and 33 for females, compared with 29 for those technicians receiving comprehensive licenses. The median age is also somewhat higher in the limited than in the fully licensed group. Whereas 68 per cent of technicians who were licensed by way of examination to the end of 1939 (Table 3) had a college degree or more, only 23 per cent of 362 receiving limited licenses had a complete college course. Only 42 per cent had two years or more of college as contrasted with 87 per cent of the technicians licensed by examination.

DISCUSSION

One fact stands out in this review of the California experience. This is the heterogeneity of the training of the candidates who enter the field of clinical laboratory technical work. While we train doctors to be doctors, nurses to be nurses, etc., we are still floundering in the field of training clinical laboratory technicians for their highly technical and exacting work. There is urgent need for a more realistic approach to this problem on the part of colleges and universities that are adequately staffed and equipped to provide training in this field. In the absence of such a realistic approach on the part of the major universities that have medical school affiliations, junior colleges and other institutions that are in no sense prepared to provide adequate training are attempting to fill in the gap. Furthermore, in California, commercial schools with poorly trained staffs and inadequate teaching facilities are offering courses of varying duration.

The California State Board of Health has for the past 20 years been aware of the public health significance of honest and dependable clinical laboratory work. Its experience indicates that order is gradually being achieved in this formerly chaotic professional field. The legislation is so designed that licensing requirements can be raised as rapidly as universities assume their responsibilities for providing adequately trained candidates. That universities in the state are facing this responsibility is indicated by the fact that three of the institutions with medical school facilities have now initiated curricula and a fourth is awaiting only the end of the war and return of an adequate teaching staff.

The program as developed has been generally accepted by the medical profession of the state as a notable contribution to the improvement of medical service. It is enthusiastically sponsored by the laboratory technicians. By retaining control under the State Department of Health with its staff of voluntary consultants representing the various interested groups, a uniform and constructive administrative policy can be maintained. The limited income from the fees of licentiates makes impracticable the establishment of a separate licensing agency or board for this work. It would seem that the State Laboratory is the logical agency to assume responsibility for this program.

A question that suggests itself from the experience to date is the annual need for clinical laboratory technicians. Prior to the end of 1941 it appeared that approximately 150 new licentiates might be required annually in order to keep established positions filled. No attempt appears yet to have been made to estimate technician need per unit of population. Excluding federal and state laboratories, the pre-war need in California was approximately 1,000 technicians, or about one per 7,500 population. The additions that appear to be needed annually are approximately one per 50,000 population. This does not include laboratory work done by private physicians for their own patients. This must be considered a rough estimate presented as a beginning yard stick with which to measure needs.

Each year sees an expansion of the demand for clinical laboratory services as a vital aid to the physician in diagnosis and therapy. Any current estimate based on past experience would certainly be conservative. Since young women comprise the majority of this group, the turnover is bound to be rapid even in normal times. The problem has been met in other fields, such as nursing, by adjusting the training program to the needs. It is to be hoped that universities will develop programs to fill the needs in this important branch of medicine and public health.

REFERENCE

1. Kellogg, W. H. Certification of Laboratories. *California & West. Med.*, 30:3 (Mar.), 1939.

The Penny Plan for Health Education in Industry

JAY I. BOXER

Executive Director, Brooklyn Industrial Health Committee, Brooklyn, N. Y.

MUCH has been written about the materials and methods of health education but not enough about financing such programs. True, the development of educational tools and techniques is important, but many a promising project has had to be abandoned because of a lack of funds.

In the relatively new field of industrial health, educational programs are slowly evolving and give every indication of assuming the proportions of a major area for health educational activities. Here too, financing is a problem which can wreck an otherwise sound and desirable public health work.

Some maintain that one of the criteria for evaluating a health educational program is the willingness of the public to support it. This may be true, but much more than just the *value* of a program is involved. A way must be found properly to "sell" the program to the public in order to gain financial support. Results from the voluntary health agency drives (well over $50,000,000 in 1945) attest to the generosity of the American people. Most significantly, the agencies with the best "sales appeals" reaped the major portion of this harvest. The other voluntary health groups cannot help but envy, the agencies blessed with a "Christmas Seal Sale" or a "March of Dimes." These have proved two of the most successful devices for "selling" a health program to the public.

When the Fort Greene Industrial Health Committee,[1] now the Brooklyn Industrial Health Committee, launched its educational program in February, 1944, it was proposed to obtain most of the budget on a voluntary contribution basis from firms participating in the project. Accordingly, firms were invited to contribute whatever amount they cared to make available for the promotion of the work. The end of the first fiscal year showed that industry contributed approximately 85 per cent of the income—the balance being contributed by a labor union and a few of the local voluntary health agencies. The close of the second year, which witnessed some dangerous financial sailing, showed that the project was far from pursuing a sound and permanent fiscal policy. Total receipts were 27 per cent less than the first year, and this time industry contributed only 57 per cent of the total, with a labor union and the local health agencies making up the balance. True, V-J Day and the resulting cutbacks in industry had their effects upon the project. But this merely confirmed the need for a careful analysis of the fund raising device and suggestions for necessary changes.

Undoubtedly, during the war, firms were liberal with their contributions to the committee since these were tax-deductible and originated from surplus profits resulting from government contracts on a cost-plus basis. The echo of the last shot ending the war, burst this bubble. Management had but one interest, reconversion to a peacetime economy as rapidly as possible. Down came

the fancy "win the war" posters and slogans. Appeals to patriotism could no longer be used as an incentive for increased production. Now it was every man for himself, every business, every union for itself. On the horizon loomed the struggle for increased prices, higher wages, raw materials, and markets. Picture if you can, the plight of the new health education project caught in this economic maelstrom.

Thus, faced with a "sink or swim" situation, inspired perhaps by the noble objectives so unfairly threatened, the Penny Plan for Health Education in Industry was born. Here was a way to "sell" a health education program to industry—to *sell*, literally and figuratively. This is the language of business. Don't ask for a "handout," don't *beg* for support of a program; offer something of genuine value and affix a price tag. Package the materials and services developed by the project and market them on a per capita basis.

The Penny Health Plan calls for the sale to industry at a cost of *one cent per employee per month* the following health educational materials and services available from the committee:

1. A supscription to *Industrial Health Bulletin*—a monthly newsletter to management reporting developments in industrial health
2. A group subscription to *Here's to Your Health*—a monthly health educational tabloid—a copy for each employee
3. Health educational posters—correlated with the tabloid—issued monthly or oftener—as many copies as needed in the plant
4. Leaflets—on various health topics, for employees
5. Guidance in the formation of in-plant health committees and programs—on request
6. Films and speakers on health subjects—on request.
7. Coöperation in securing chest x-rays, blood tests, nutrition advisory service, industrial physicians and nurses.

A plant may take any or all of the materials and services offered. The total cost to a plant of 500 workers would be $5 per month or $60 per year. A minimum fee of $1 per month or $12 for the year is charged for plants having fewer than 100 workers. Naturally the success of such a plan is dependent upon the number of workers brought into the program. In the case of Brooklyn, it is planned to reach 100,000 workers whose employers would pay $1,000 per month or $12,000 per year for health education service.

Many variations of the Penny Health Plan suggest themselves. The original *penny per worker per month* plan whereby management meets the cost can, after the first year, be extended to include a like payment by the workers, thus yielding *two cents* per worker each month. Another possibility is the establishment of the service fee at the rate of a penny per worker per *week* with management alone or in coöperation with the workers paying the bill. The smallest possible fee was decided upon by the Brooklyn Committee to encourage small plants to come into the program and to rule out *cost* as a possible excuse for not participating.

But how can so much be given for so little? The answer lies in a novel form of subsidy which allows for voluntary health agency coöperation in the program with several mutual satisfactions. Approximately 40 per cent of the 1946 budget has been allocated for publication and distribution of the monthly tabloids and posters. Health agencies are approached and asked to sponsor or assume financial responsibility for these materials—a different agency sponsoring an issue each month. Since the sponsored issue is devoted to the subject matter identified with the sponsoring group, the agency has the opportunity to reach a ready-made audience of industrial workers with its message.

For example, the Brooklyn Cancer Committee was approached in October, 1945, to sponsor the December issue of the tabloid and poster. This agency

was most anxious to bring industry in contact with its educational program. The sponsorship also offered an excellent medium for establishing good public relations between industry and the Cancer Committee which was planning to reach more of the industrial group in its approaching fund raising campaign.

When the financial responsibilities were agreed upon, the sponsoring agency submitted to the Brooklyn Committee materials suitable for use in the tabloid and poster. When proof sheets met with the approval of all concerned, the required number were printed and distributed to the firms and organizations participating in the industrial health program. The workers coming in contact with these materials were given some basic information about cancer and referred directly to the Brooklyn Cancer Committee for further information and advice. The sponsoring group and its work was given the spotlight and full credit. The Brooklyn Industrial Health Committee remained in the background, assuming the rôle of vehicle, carrying the health message to industry.

Sponsors thus far have been the American Social Hygiene Association, the Brooklyn Tuberculosis and Health Association, the Brooklyn Cancer Committee, the New York Heart Association, the Greater New York Chapter of the National Foundation for Infantile Paralysis, the Maternity Center Division of the Brooklyn Visiting Nurse Association, the Sight Conservation Committee of the Brooklyn Association for Improving the Condition of the Poor, the Associated Hospital Service of New York, the Metropolitan Life Insurance Company and the First and Second District Dental Societies of New York.

The response from agencies invited to sponsor materials has been so gratifying that it is safe to predict that most of the issues for the 1946 program will be underwritten.

Another subsidy, while not granted in the form of cash, is the rent-free quarters supplied in one of the New York City Department of Health buildings. In addition to office space, a conference room and an auditorium have been made available by the department. Other subsidies include grants from a labor union, a Foundation, the Brooklyn Tuberculosis and Health Association, and the Greater New York Fund. Additional labor unions and foundations will be approached for funds to help carry the project until it can sustain itself.

What does industry think of the Penny Health Plan? The answer to this question was boldly sought by presenting to industrial leaders a brief description of the plan with a request for their personal opinions. The response here too was most gratifying. Not a single adverse criticism was expressed. One must read these letters from "hard boiled" business men to appreciate their feelings toward the plan. The following excerpts reflect some of the enthusiasm:

"I think the plan is sound and I hope you will succeed in putting it over. We would support it."

"It does seem like an equitable method for distributing the cost. . . ."

"I believe it is an excellent idea and should be supported by any industry with a progressive and forward looking attitude regarding its employees' health."

"It sounds like a very good program, and I imagine you might have an opportunity to interest some small concerns in it when they would be hesitant to give a small donation."

"My immediate reaction from an employer's point of view was its bargain feature. Here was something that supplied more than its money's worth. Yet the fact that there was a small definite outlay was enough to bind the employer's interest in the plan. I am of the opinion that if the approach to an employer is made on a businesslike basis rather than a charity basis with its indefinite

contribution solicitation, he is apt to go along with a keener interest in the plan. The Penny Health Plan deserves a trial. I am for it."

"We are thoroughly in accord with the Penny Plan as outlined in your summary, and consider it an interesting and attractive way to present your program to industry."

"In our opinion your new Penny Plan is an excellent one and we believe it will be accepted by manufacturers. The idea of selling to management information for the use of their employees is a sound plan from a business standpoint, and is a much more businesslike method of financing the costs of the work done by the Fort Greene Industrial Health Committee.

"We feel also that by making this work self-sustaining it can be used effectively in other areas and in many other cities. We hope that it will some day be done on a nation-wide basis, and believe that the Penny Health Plan is the only satisfactory manner whereby such services would be acceptable to industry."

Further to insure the success of the plan it was decided to secure the endorsement of the Brooklyn Chamber of Commerce—not only of the plan but of the entire project. Accordingly, the chamber was approached and the committee subjected to a thorough investigation. The report and recommendations to the Executive Committee of the Brooklyn Chamber of Commerce submitted by the investigating group scored another point in favor of the plan. Extracts from this report tell their own story:

"In our opinion the management is sound. There is a justifiable need for the type of service rendered to management, and the organization, within the capacity of its present income and scope of interest, is attempting to do an effective job.

"It is now proposed by the sponsors and management of the Fort Greene Industrial Health Committee that these services be made available to other plants in Brooklyn outside the original area. They are of the opinion that the Fort Greene experiment has been sufficiently developed to assure the usefulness of the program and set up a technique fitted to the Brooklyn community.

"They propose to finance this expanded program through the so-called Penny Plan whereby industry would purchase the health educational materials and services described earlier at a cost of one cent per employee per month.

"Your subcommittee has met with officials and representatives of the Fort Greene Committee for full discussion of all details herein reported, and we recommend that the Chamber of Commerce extend its coöperation. . . .

"We believe . . . that the Chamber of Commerce, through adoption of the plan of coöperation here recommended, could be of substantial and effective service to the health group in the expansion of its program on a Borough-wide basis."

The Penny Plan for Health Education in Industry was officially launched late in May when 1,800 firms in Brooklyn employing fifty or more workers were invited to participate. Funds had been made available to prepare an attractive, businesslike presentation to the management of these firms. This was a kit consisting of an eight page leaflet describing the purpose and nature of the project, actual samples of the materials available to participants, and an enrollment blank on a business reply card. These were arranged in a folder which was indexed for filing under the heading "Health, Industrial." It was hoped that the folder would lend an air of importance to the presentation and encourage further study of the proposition. The kit was mailed in a specially printed envelope bearing a distinctive and eye-arresting format.

As this is written, it is too early to predict results. However, there appears to be no reason why the Brooklyn experiment cannot be initiated in any community having a large industrial population. With a novel, sound, and acceptable "selling device" like the Penny Health Plan, financial support for such a project is more certain.

REFERENCE

1. Landes, J. H. Plan of the Fort Greene Industrial Health Committee. *A.J.P.H.*, 35:602 (June), 1945.

Report on Hydrant Stops

L. GLEN SHIELDS, F.A.P.H.A., AND
F. GARDNER LEGG, JR., F.A.P.H.A.

Department of Buildings and Safety Engineering, City of Detroit, Mich.

IN recent years, great progress has been made in the prevention and elimination of cross-connections and inter-connections in the water distribution system of buildings and premises. Vacuum breakers, atmospheric gaps, barometric loops, back flow preventers, surge tanks, and greater care in the adequate sizing of water services and distribution piping have been utilized in their proper locations to eliminate the possibility of back flow or back siphonage.

There is one possible source of pollution to which little attention has been given which, in the opinion of the Detroit Department of Buildings and Safety Engineering and the Department of Health, is dangerous and should be corrected.

Wherever climatic conditions develop freezing or lower than freezing temperatures over a protracted period of time, it is common practice in structures that have no basement or cellar, to install a shut-off valve in the water service piping below the frost level. This valve has a drain opening so the piping on the building side of the valve may be drained into the ground when the valve is in the closed position. The valve used in Detroit is a brass "Hydrant Stop, Cap Pattern, Flatway, with Tee Handle."

The rules and regulations of the Department of Water Supply of the City of Detroit provide:

Chapter VI. Sec. 14. "It is expressly forbidden for any plumber to lay a service pipe inside of a building, along the outside wall, or in any position where there is danger of frost; also, to make new connections, or to install any new attachments or fixtures to old connections, that shall require a running stream to prevent freezing. Every service pipe, supplying a building where there is no basement, must be provided with a valve and waste, so situated that the water can be completely shut off and drained from the pipes to prevent freezing. When such valve with waste is placed under the sink, the rod for operating the valve shall extend above the floor, and be so arranged that when the valve is open, the handle of the rod shall be parallel to the back of the sink."

The Department of Health and the Department of Buildings and Safety Engineering of the City of Detroit devised a simple experiment in order to determine whether such an installation could introduce any polluted water into the distribution piping of the system. A description of the equipment and procedure follows.

A 5 gallon capacity metal tank, 18 inches in height, was pierced on one side so as to receive a ¾ inch water supply pipe, and after the pipe was introduced, the opening in the wall of the tank around the pipe was sealed. The end of the pipe was threaded before its introduction into the tank and the hydrant stop with drain of the aforementioned type was connected to the supply pipe inside the tank. A ¾ inch distribution line was connected to the discharge side of the hydrant stop and led by means of a vertical riser to a sink faucet 3 feet above the level of the stop. The waste opening in the hydrant stop was about 6 inches above the base of the tank and the diameter of the

waste opening was approximately 3/16 inch.

The water supply to the hydrant cock and sink faucet was turned on and the riser was filled with water. Water tinted red by means of fuchsin dye was poured into the tank until it reached a height of about 4 inches above the hydrant stop. The hydrant stop was turned off but the faucet on the riser remained closed. In 6 hours, the supply was restored to the faucet by turning the hydrant cock on and the first water drawn from the faucet was caught. It showed the presence of the dye, which had entered from the tank through the drain opening into the distribution piping by the process of diffusion. There was no perceptible change in the elevation of the water in the tank and it would appear that very little drainage in this instance had occurred.

The next procedure was to flush the supply riser and hydrant stop until there was no evidence of dye in the piping. The hydrant cock was again turned off, the faucet was open in this instance and permitted to stand overnight. The following morning, the hydrant stop was turned on, the first water flowing from the faucet was caught, and again the presence of the dye was apparent.

The final experiment was to flush the piping so as to clear the piping of any dye from the tank, the hydrant cock was closed, the faucet opened, and sufficient water was decanted from the tank by means of a siphon so as to lower its level one inch. This decanted water was immediately returned to the tank by gently pouring it into the tank so as to create as little disturbance as possible. The hydrant cock was again opened, the first water from the faucet was caught, and the presence of much dye was observed.

CONCLUSION

This experiment shows the hydrant stop with drain to be a device by means of which the water distribution piping may be contaminated, providing the valve is shut off either when the ground water table is above the drain opening or if the ground water table rises above the drain opening while the valve is shut off.

Installations of this character if installed in sandy soil could permit sand to enter through the drain opening, and it is conceivable that if the valve is operated a channel could be cut in the wall of the valve body or the surface of the plug so that the installation would leak. It might even be possible under extreme conditions of usage for a high velocity flow through the hydrant stop to set up aspirating effects so as to pull ground water through the seat made defective by sand. The valve seat is lubricated and sealed with a heavy lubricating medium, which in the course of time might deteriorate or, if used with sufficient frequency, work out around the top so as to permit leakage at that point.

Thus, we believe this type of installation has too many possibilities and probabilities of polluting the water distribution system for it to be condoned by any agency responsible for furnishing water through safe service piping, meters, and distribution piping to the point of normal usage.

As an alternative safe method of installation, it has been suggested that a shutoff valve with a drain opening be installed in the service line on the utility side of the meter. This valve would be installed in a water-tight housing with a piping connection off the top in which would be installed the shut-off handle to the valve and a small tube leading to the bottom of the housing. The tubing would have a pump attachment and would be pumped out when the system drained.

Another suggested solution is for the hydrant cock to be installed with no drain opening, with a tee or wye con-

nection in a riser immediately adjacent to the discharge side of the valve and a tube with pump connection led to the low point in the piping, and the water pumped out of the system through the tube.

Solutions of this type raise objections because they place added responsibility and duties on the occupant of the premises and also if he fail in them, burst piping with its attendant evils might result. Furthermore, it raises the cost of installation to the extent of the difference between the present unsafe installation and one that would be safe.

Let us analyze the validity of such objections. We believe that it would be equally valid to object to installing an ash pit in conjunction with a coal furnace because the user is forced to shovel out the ashes from the pit or burn out the grates of the furnace. People can be taught to assume their responsibilities, particularly where their health or safety may be affected. As to the objection with reference to cost, if this were a valid objection, we would not be justified in placing locks on doors, fire escapes on buildings, or emergency brakes on automobiles because they all increase the cost to the user. However, in the interest of safety, everyone wants them regardless of their cost.

We believe that it is the responsibility of the public utility furnishing water, the contractors making the installation, and the inspectional agency of the municipality or state to see that such installations are made in such a manner that, under no anticipated preventable circumstance, will the water be polluted. Potential ignorance, stupidity, or forgetfulness on the part of the occupant of a building is no excuse in our opinion to condone further unsafe installations of the type now prevalent. The utility and the inspectional agency may be readily placed in a position of jeopardy if unsafe installations are tolerated only because safe ones are more costly.

There is one other practice which is regarded as questionable, and that is the installation of meter pits with drains connected to the sewer. In Detroit any meter well within one hundred feet of a sewer must be drained to the sewer and, if no sewer is within that distance, a sump in the well must be provided so that any water collecting therein may be pumped out. With present automatic heating equipment, water proofing, and insulation, could not such equipment be housed in a rodent, vermin, and water proof structure above grade? Then the problem of gorged sewers or casual water in the meter pit could be eliminated by utilizing such equipment.

As inspectional agencies, the Department of Health and the Department of Buildings and Safety Engineering of the City of Detroit believe it is their duty to direct attention to these two problems in order that appropriate steps according to local administrative authority may be taken to cause unsafe hydrant stops and meter wells to be discontinued.

Second, we wish to direct the attention of inventive, ingenious minds to this problem. We believe the problem is soluble. Manufacturers with research and experimental laboratories can afford to develop the solution. We also believe that if an automatic fool-proof solution can't be found, the present dangerous features must be corrected. We are sure people can be taught to use safe mechanical devices. Therefore, we urge the engineering brains of the nation to eliminate this unseen, possible, and very probable source of water pollution.

Factors Affecting the Susceptibility to Bacillary Dysentery*

THOMAS THALE, M.D., AND LINCOLN OPPER, M.D.

Instructor in Psychiatry, Washington University, St. Louis, Mo.; Pathologist, Norwich State Hospital, Norwich, Conn.

BACILLARY dysentery is an almost constant menace wherever large numbers of people are massed under conditions which hinder the maintenance of proper individual and group standards of hygiene. Armies, refugee camps, orphanages, prisons, and mental hospitals are particularly liable to epidemics of this disease.

A number of factors which bring about the relatively high morbidity in the situations mentioned above have been identified. Among these are the increased opportunity for the completion of the feces, food, feces cycle offered by crowding and by the presence of carriers or mild cases who remain ambulant.

It is generally believed that warm weather and tropical climate, favoring as they do the presence of flies, facilitate the spread of the disease.[1] On the other hand, it has been observed that in one mental hospital the greatest incidence of infection occurred in the winter when the patients were confined indoors, whereas the rate fell to zero during the summer months when it was possible to distribute the patients on open porches during the day, thus relieving crowding.[2]

In addition to climate and crowding, which affect all, conditions such as occupation or mode of life subject certain individuals to particular risks. This was long ago pointed out by Pringle[3]: "For in general it may be remarked, that this disease *caeteris paribus* prevails mostly among such as are of scorbutic (that is, putrid) habitus or among poorer people, who from their foul air, bad diet and nastiness are most liable to putrid diseases." In mental hospitals the highest incidence was among the "wet and dirty" cases.[4] In a hospital for mental defectives, there was an inverse relationship between the intelligence level and the rate of morbidity.[4]

It has been claimed that attacks of the disease confer immunity. This contention has been used to explain the greater susceptibility of army recruits as compared with veterans, and the promptness with which newcomers to tropical countries develop the condition while the native population remains apparently healthy. The same principle has been invoked to explain the alleged decrease in morbidity with advancing age,[1] natives of tropical countries, army veterans, and older people presumably having survived previous attacks.

There is no close agreement concerning the value of artificially conferred immunity. An authoritative text on immunology[5] states, "We cannot at the present time recommend the use of dysentery vaccine as a general prophylactic measure."

Cathcart and Gordon[2] reported that they had used a vaccine for the Flexner Y type of dysentery with good results

* From the Psychiatric Service and Pathological Laboratories of the Norwich State Hospital.

in a mental hospital. Johns and Chalk[6] continued this work, using a slightly different technique. They gave vaccine orally on four successive days, repeating the treatments periodically. Whereas 37 cases had arisen in the year before treatment, only 31 developed in the subsequent nine years. None of these 31 patients had received vaccine within the two years before their infection.

BACKGROUND

For several years prior to the present studies, involving the prophylactic use of vaccination, the Flexner strain of bacillary dysentery had been endemic at the Norwich State Hospital with periodic outbreaks of epidemic proportions. During the two years preceding the study, stools of suspected cases of bacillary dysentery were cultured and records of the results were kept.* It was found that the majority of cases arose on three wards. These were the wards on which the disturbed women, the deteriorated women, and the elderly women resided. During the period of study, all cases of gastroenteritis were isolated, subjected to at least one stool culture followed immediately by sulfaguanidine given in 1 gm. doses every 4 hours for a week. All cases of dysentery were followed with periodic stool cultures. This program permitted the detection of a large number of cases and possible carriers and also decreased the opportunities for transmission because of the prompt sterilization of the stool by sulfaguanidine.

PROCEDURE

The subjects of the current study were the patients who resided on the three wards for elderly, disturbed, and deteriorated women. The highest incidence of infection had previously occurred on these wards.

Patients who had entered the hospital within five months preceding inoculation were eliminated from consideration. All other patients served as subjects for the experiment, being grouped in the following manner:

Those patients who were too ill or debilitated to be fit subjects for inoculation were listed separately from the control and treatment groups.

The remaining relatively healthy patients were listed alphabetically. Consecutive names were taken from the beginning of the list until the desired number of cases for inoculation had been obtained. All other patients served as controls. The number of inoculated patients was greater than the number of control patients because the original purpose of the study was to determine the effect of inoculation.

Some of the patients had suffered a known infection in the past; these were tabulated separately. Previously infected patients were found in each of the groups described above.

A newly exposed group was made up of those patients who had been admitted to the hospital after the beginning of the study and who had subsequently been transferred to the wards under observation.

The treated and control groups were comparable with regard to the age and habits of their members. There was no attempt to segregate the various groups. All patients lived and ate together, no distinction being made between patients of the various groups. The medical and nursing staff caring for them were not informed as to the manner of classification or the class into which any given patient might fall. In this way uniformity of treatment was obtained.

A polyvalent vaccine which incorporated the "V," "W," and "Z" strains of *B. Flexneri* was prepared through the courtesy of Eli Lilly & Company according to the method outlined by

* Specimens of stool were plated out directly on Eosin-methylene blue agar, Bismuth sulfite agar, and S.S. agar. Suspected colonies were fished to Kligler's Iron Agar slants. This was followed by plating on a non-inhibitory medium for purity and then reisolation from a single colony, if necessary. Identification of the organism was completed by serological and biochemical reactions.

TABLE 1

Group	Patients		Cases of Dysentery		Cases per 100 Patients per Year	
	Not Infected	Previously Infected	Not Infected	Previously Infected	Not Infected	Previously Infected
Inoculated						
Deteriorated	70	18	8	3	11.4	17.1
Elderly	73	18	9	3	13.6	16.7
Total	143	36	17	6	12.5	16.9
Control						
Deteriorated	65	7	6	2	9.5	28.6
Elderly	47	7	5	0	11.1	0.0
Total	112	14	11	2	10.2	14.5
Ill (not inoc.)						
Deteriorated	12	..	2	..	16.6	....
Elderly	48	6	2	1	5.0	16.7
Total	60	6	4	1	7.7	18.2
Newly exposed (not inoc.)						
Total	57	..	7	..	40.0	....

Paddle,* [4] strain "Z" being the homologous strain involved in previous outbreaks within the institution. At weekly intervals, injections of 0.5, 1.0, and 1.0 ml., respectively, of the vaccine containing 500 million organisms per ml. were given subcutaneously to the inoculated group.

RESULTS

All cases of dysentery occurring during the year after inoculations were recorded. In Table 1, the size of the different groups, the number of infections in each, and the corrected case rates per one hundred patients per year are shown. The corrected case rate per year was utilized in order to permit comparison of other groups with the newly admitted group, many of whose members were resident on the wards under observation for only a few months.

The newly admitted patients had a markedly higher case rate per year than either the control or inoculated groups. This difference was statistically significant at the 1 per cent level by the Chi-squared test. The incidence of infection was slightly higher in the inoculated groups than in the comparable control groups both for uninfected and previously infected patients. This difference was not statistically reliable nor was the difference between the infirm patients and the younger deteriorated and disturbed patients. The control group did not differ to a reliable degree from the debilitated patients. Neither was there a significant difference between the previously infected and the previously uninfected groups.

In Table 2, the number of infections per month is shown for each of the major groups without distinction as to age or

* It contained 500 million organisms per ml., the dosage being 0.5 ml., 1 ml., and 1 ml. subcutaneously, at weekly intervals. Given in this way, no unpleasant reactions occurred. The organisms were isolated in pure culture and identified by morphological, cultural, biochemical, and serological methods. The organisms were agglutinated first against polyvalent serum and finally against monovalent Flexner types. Cultures are kept in stock on agar and when a vaccine is required, heavy inoculation is made on two nutrient agar slopes in 12 oz. medical flat bottles and incubated for 18 hours at 37° C. The resultant growth is washed off under aseptic conditions with as little as possible of sterile 0.5 per cent phenol in normal saline into another sterile 12 oz. medical flat bottle containing glass beads, thoroughly shaken, and heated in a water bath at 60° C. for ½ hour. Cultures are then taken and incubated at 37° C. for 48 hours. The amount is again heated for ½ hour at 60° C. if there is any growth. When the emulsion is found to be sterile, the strength is estimated by comparison with opacity tubes and the vaccine is diluted with 0.5 per cent phenol solution in saline to contain 500 million organisms per ml. This is placed in appropriate rubber-capped bottles and by means of a sterile syringe or glass capillary pipe cultures are again taken from each bottle and grown aerobically and anaerobically for at least 48 hours to check the sterility. After taking this culture, the cap of this bottle can be sealed.

previous infection. The inoculated patients had more infections in the first month than the controls, and the ratio of two to one in that month is approximately that which obtained over the 12 month period. The low incidence of infection for new patients in the first months is not surprising in view of the fact that the majority of the patients comprising this group had not yet been admitted to the wards under observation.

TABLE 2

Incidence by Months

	1943							1944					
Groups	*June*	*July*	*Aug.*	*Sept.*	*Oct.*	*Nov.*	*Dec.*	*Jan.*	*Feb.*	*Mar.*	*Apr.*	*May*	*Total*
Inoculated, all groups	6	..	6	..	..	1	..	6	1	..	2	1	23
Control	3	..	7	..	..	..	1	2	..	..	..	..	13
New Patients	1	..	..	..	..	..	1	5	..	..	..	..	7
Ill	..	1	..	..	..	..	1	2	..	..	1	..	5

In Table 3 the mean age of the infected patients is compared with that of those who were not infected. It will be seen that in both the younger deteriorated group and the older infirm group there was no significant age difference between the infected patients and those who were not infected.

TABLE 3

Mean Age of Infected and Non-infected Patients

	Non-infected Patients			*Infected Patients*		
Group	*No.*	*Mean Age*	*S.D.*	*No.*	*Mean Age*	*S.D.*
Control						
Deteriorated	59	46	12.2	6	45	11.6
Infirm	42	67	11.1	5	66	17.4
Inoculated						
Deteriorated	60	45.2	7.3	8	43.25	11.2
Infirm	64	69.4	10.2	9	68.1	7.9

All patients were rated with regard to the usual presence of the following behavioral traits: ambulant (as opposed to bedridden), carelessness with regard to cleanliness, stealing of food, urinary incontinence, fecal incontinence, smearing of feces, eating food from the trays of other patients, eating of the patient's own feces, eating the feces of others, eating rubbish or licking the floor, and contact with toilets, either in the form of dabbling in the toilet bowl or cleaning the toilets in bathrooms. Table 4, in which the results are shown, includes some patients excluded from the previous tables because they did not fall in any of the groups into which the patients had been subdivided. Some other patients previously reported are excluded from Table 4 because adequate information concerning their habits was not available. By means of the Chi-squared test, the incidence of infection in patients showing any behavioral trait was compared with that in those not showing the trait. Where necessary, Yate's correction for small numbers was applied. The "level of confidence," that is, the likelihood that an equally great or greater difference in infection would arise from chance is shown. A level of confidence greater than 10 per cent is usually considered not reliable. Table 4 indicates that the greater opportunity for exposure offered by the ambulant status was not a critical factor nor was the stealing of food of other patients. Patients who were characterized as uncleanly were much more likely to develop infection; when this

TABLE 4

Traits	*Infected (94 Patients)*	*Not Infected (281 Patients)*	*Level of Confidence*
Ambulant	91	260	30%
Careless of cleanliness	49	110	5%
Urinary incontinence	48	104	5%
Fecal incontinence	47	97	2%
Fecal smearing	44	76	1%
Eats own feces	14	15	1%
Eats feces of others	10	10	2%
Eats rubbish—licks floor	17	28	10%
Eats food of others	32	76	30%
Cleans or dabbles in toilets	35	107	90%
One or more uncleanly trait	72	199	40%

uncleanliness was related to excreta, particularly the handling or ingestion of excreta, the likelihood of infection was tremendously increased. An overall impression of cleanliness or uncleanliness distinguished much more sharply between the infected and uninfected than did a separation based on the absence of all uncleanly traits.

DISCUSSION

Our data confirm objectively the generally held opinion that poor personal hygiene on the part of many mentally ill individuals facilitates the spread of bacillary dysentery through institutions for the mentally ill and mentally defective. We have demonstrated that uncleanly individuals are more readily infected than cleanly ones. It is highly probable that, once infected, the uncleanly patient is a greater menace than a cleanly one.

It is possible that undetected carriers and subclinical cases played an important part in spreading the infection prior to the liberal and repeated use of sulfaguanidine and the taking of repeated stool cultures following clinical recovery. We favor the use of this relatively insoluble drug because it gives rise to fewer renal and hematological complications than the more readily absorbed sulfonamides, and can therefore be used with greater safety for mass treatment under conditions in which repeated blood and urinary studies are not always possible.[7]

Among the previously exposed, immunity was not enhanced by inoculation or by previous infection. The previously exposed, whether they had suffered a known previous infection or not, were more immune than the newly admitted patients.

The degree of immunity was not affected by age differences or by extreme variations in general health. It may be that the debility of the aged and severely ill patients was offset by their inactivity which afforded them fewer contacts.

The greater susceptibility of newly admitted patients cannot be explained conclusively. One can only conjecture that repeated exposure confers some kind of immunity. In the administration of an institution in which bacillary dysentery is encountered, the difference between immunity of the recently admitted and the stable population is of the greatest practical importance.

CONCLUSIONS

1. Patients who were newly exposed to infection by the Flexner type of bacillary dysentery were markedly more susceptible than those who had previously been exposed by residence on wards where the disease was endemic.

2. General uncleanliness was associated to a highly reliable degree with increased morbidity. Of the group of uncleanly traits, the handling or eating of feces showed the most definite relationship with infection.

3. The incidence of clinical infection in a group inoculated with vaccine was slightly higher than in a comparable control group. This difference was not statistically reliable.

4. Age difference was not attended by a significant difference in morbidity.

SUMMARY

In the presence of Flexner dysentery, neither inoculation with a polyvalent vaccine nor a previous history of infection resulted in a lowering of incidence compared with control patients. Age and general health did not affect susceptibility. Absence of previous exposure and the presence of uncleanly personal habits were attended by increased mormidity, other conditions being equal.

REFERENCES

1. Holmes, W. H. *Bacillary and Rickettsial Infections.* New York: Macmillan, 1940.

2. Cathcart, J. P. S., and Gordon, J. E. An Outbreak of Bacillary Dysentery in the Ontario Hospital, London. *Ontario J. Neuropsychiat.*, Mar., 1924, pp. 52–60.

3. Pringle, J. *Observations on the Diseases of the Army.* Philadelphia: Edward Earle, 1810.

4. Paddle, K. C. L. The Control of Dysentery by Prophylactic Inoculation. *J. Ment. Sc.*, 84:134–135, 1938.

5. Zinsser, H., Enders, J. F., and Fothergill, L. D. *Immunity—Principles and Application in Medicine and Public Health.* 6th ed. New York: Macmillan, 1939.

6. Johns, E. P., and Chalk, S. G. Prophylactic Oral Vaccine in Bacillary Dysentery. *Canad. M. A. J.*, 29:40–43, 1933.

7. Opper, L., and Hale, V. Sulfaguanidine in Treatment of Dysentery (*Bacterium Flexneri*) Carriers. *J.A.M.A.*, 119:1489–1491, 1942.

An Epidemiological Study of an Outbreak of Pertussis in a Public School*

ANNE CLARK RODMAN, WILLIAM L. BRADFORD, M.D., AND GEORGE PACKER BERRY, M.D., F.A.P.H.A.

Departments of Bacteriology and Pediatrics, University of Rochester School of Medicine and Dentistry, Rochester, N. Y.

WHILE it is generally agreed that the incidence of pertussis among susceptibles following family exposure is relatively high, varying from 70 to 100 per cent,[1-5] little information is available concerning the incidence of the disease following schoolroom exposure. Culotta, Dominick, and Harrison,[3] in 1938, described a small school epidemic in which only a fifth of the susceptibles developed whooping cough. Their study was based on a classroom group of 23 children, aged 5 to 8 years, of whom 15 gave no history of pertussis. Three children, the original cases, introduced the disease into the classroom, where they remained without isolation during the catarrhal stage. Subsequently, only 3 of the 15 apparently susceptible children (20 per cent) developed the disease. All of them, in fact, were demonstrated to have had family exposure as well. Luttinger[1] stated in 1916 that out of 2,310 cases in New York City, 146 cases (7 per cent) resulted from exposure at school.

During the fall of 1940, an extensive outbreak of pertussis occurred among the children attending a suburban public school near Rochester, N. Y. With the excellent coöperation of the school authorities, the health officer, the attending physicians, and the parents, it was possible to make a detailed study of this outbreak. The present paper gives some of the facts obtained during the investigation, and details the manner in which the disease spread through the children of the various grades. The incidence following schoolroom exposure is compared with that following family exposure and, in addition, observations on the incidence of the disease among vaccinated individuals are recorded.

The Allen's Creek School (Brighton District School No. 6, Monroe County, N.Y.) opened on September 2, 1940. At the time the present study was made, it had, in eight grades and a kindergarten, a total enrollment of 205 pupils, ranging in age from 4 to 15 years. Of this number, 80 were girls and 125 were boys. In addition, there were studied 74 preschool children and infants representing family contacts. These children, coming from families separated widely in social status, received different degrees of medical attention, ranging from none at all to the best available. In general, however, their medical care and home environment were good.

The size of the classes varied from

* Based on portions of a thesis presented by Anne Clark Rodman in June, 1941, to the University of Rochester in partial fulfillment of the requirements for the degree of Master of Science in Bacteriology.

18 to 31, the average being 22. Each class had its own room and teacher and was kept entirely apart from the other classes, except for one weekly assembly at which the whole school gathered. Even on this occasion, the children were seated by grades, so that contact between the different classes was so slight as to be negligible. A further exception must be made for some members of the upper three grades who came together for certain work. Other than these contacts, we may consider each class as a separate unit. Within each classroom, the contacts were close and constant.

The investigation of the epidemic began shortly after it had reached its peak. It was, therefore, in no way connected with the institution of control measures. It was, rather, a study in retrospect of the spread of the disease through the school children and the family contacts. Since a large percentage of the school children and their siblings had received prophylactic inoculations of various types, the results cannot be compared with those from any group in which vaccination had been carefully controlled. The results, however, indicate that vaccines prepared from freshly isolated strains of *Hemophilus pertussis* are protective.

The epidemic began in the "H" family, consisting of the parents and 5 children, of whom only the father gave a prior history of pertussis. Three of the children entered school when it opened on September 2, a fourth was of preschool age, and a fifth had been born on August 19. Z.H., in the 5th grade, developed pertussis on August 17; B.H., in the 3rd grade, on August 22; and K.H., in the 1st grade, on September 7. S.H., of preschool age, began to cough on September 3. None of the cases was reported to the health authorities and no physician was in attendance until Mrs. H. was delivered of her baby, T.H., on August 19. She and the baby subsequently developed the disease. The cases were then reported.

The "H" family lived in moderate circumstances in a small suburban neighborhood where there were many children living under similar conditions. This group had the lowest economic status of any family sending children to the school. There were 19 other families living in frame houses and in somewhat crowded surroundings within a radius of 2 blocks. In these 19 families there were 35 children, the majority having received but little medical care.

During August, before the opening of school, the "H" children played freely with their neighbors, with the result, surprising perhaps, that the disease was transmitted to only a single child. When the school opened on September 2, 2 of the "H" children, both whooping, attended school and remained there for 2 weeks. Within 5 days, a third child in the family developed pertussis, and was also permitted to remain in school. In this manner an active focus of infection was created in the 1st, 3rd, and 5th grades (Figure 1). The spread of the disease within the school from these 3 main sources will be described later.

The present investigation was begun early in November and was concluded in January, by which time the epidemic had subsided. The method of investigation was as follows. One of the parents, usually the mother, of each child in the school was interviewed either by telephone or by personal visit and was asked to supply the following information:

1. Name, age, sex, and grade of the child.
2. (a) Had the child previously had whooping cough?
   (b) Did the child develop pertussis during this epidemic? If so, what was the date of onset? Was the attack mild, moderately severe, or severe?
   (c) Did the child escape infection during the epidemic?
3. Had the child received pertussis vaccine at

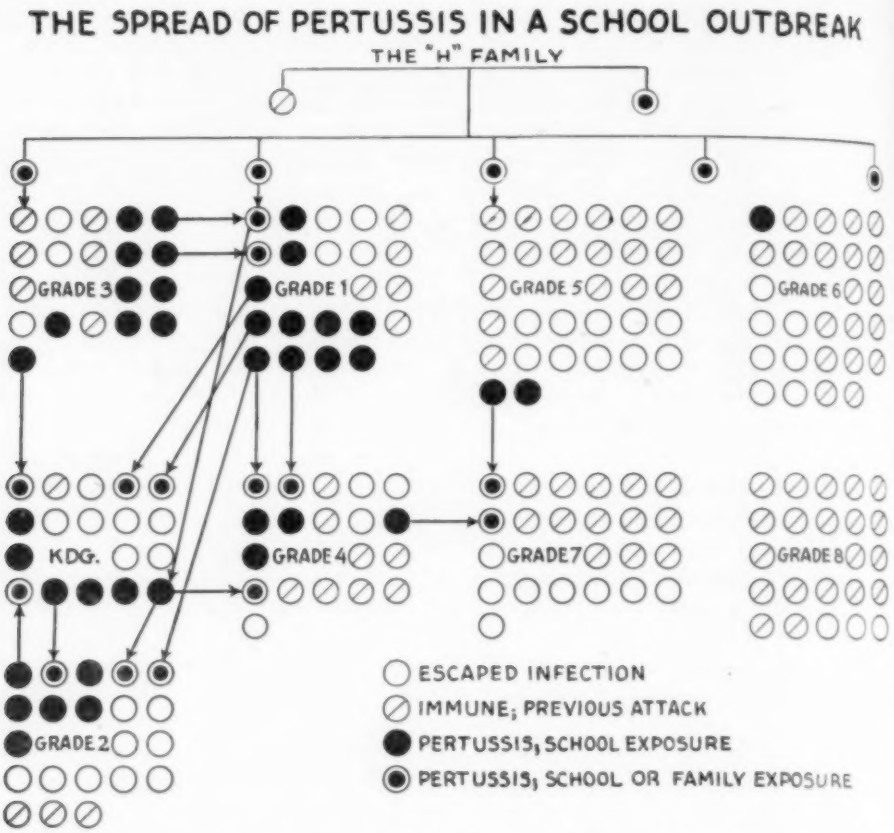

FIGURE 1—Diagrammatic Representation of the Spread of Pertussis in a School. Each Circle Stands for a Single Child. The Arrows Indicate the Probable Routes of Spread. The Arrow Pointing to a Schoolroom Exposure in the KDG. Represents a Probable Outside Rather than a Family Exposure to the Case.

any time prior to, or during, the epidemic? If so, when and by whom was it administered?

Answers to these questions were secured for each pupil and all members of the family. The results were tabulated according to family and school grade.

Each of the children vaccinated prophylactically was checked further by consulting his physician, from whom the type, dosage, and dates of vaccination were obtained. The clinical diagnosis could not be verified by culture in every instance because we were not aware of the epidemic until it had reached its height. A great many of the cases, however, were attended by well qualified physicians, who made cough-plate cultures in many instances.

EPIDEMIOLOGICAL DATA

The spread of pertussis among the school children—The distribution of the children is recorded according to grade in Table 1. The number of immunes in each grade is indicated, as are the number of susceptible who contracted the disease during the school epidemic and the number who escaped infection. A child is considered "susceptible" if there is no history of a prior attack of pertussis, regardless of whether or not the child had received pertussis vaccine.

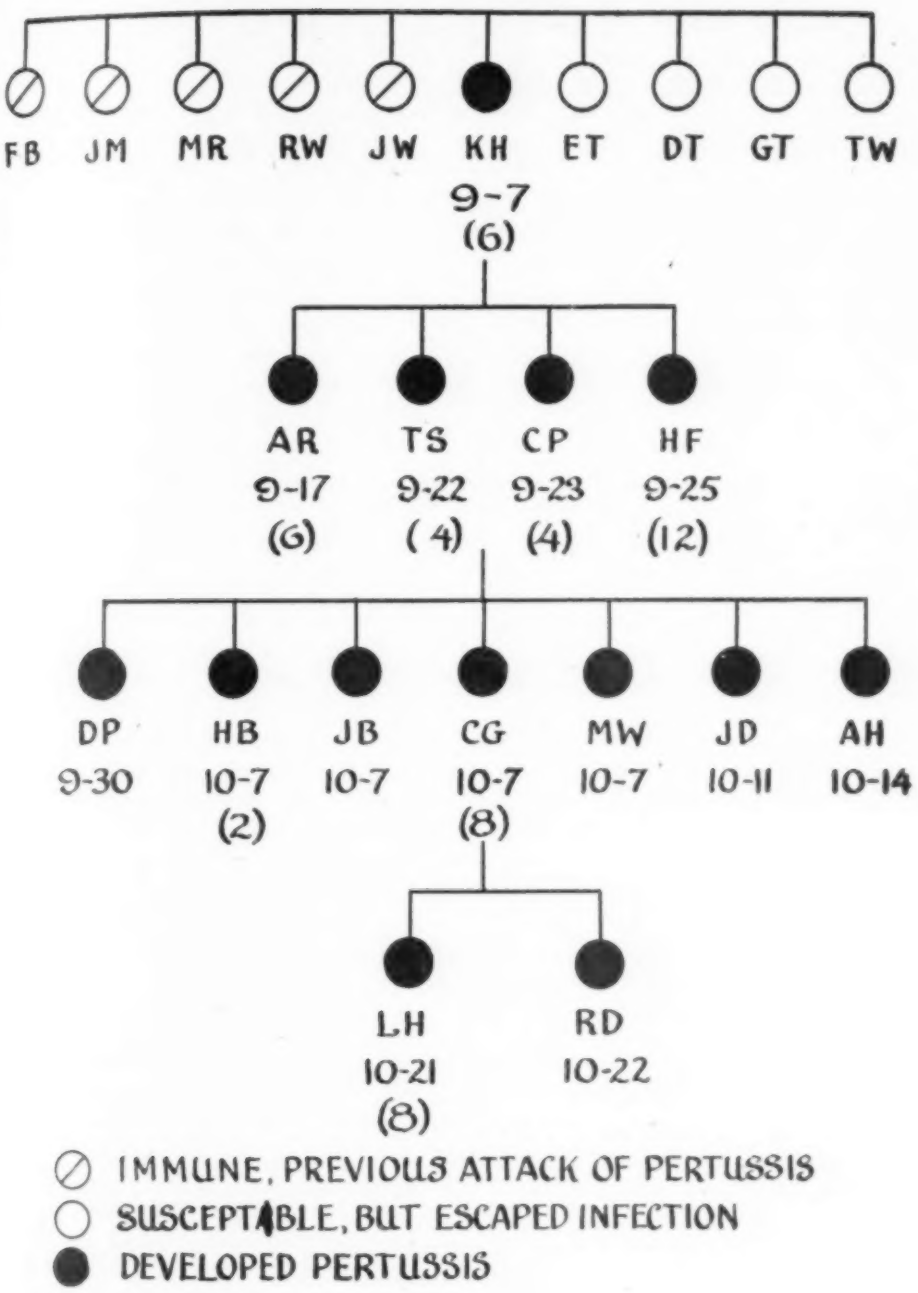

FIGURE 2—Diagrammatic Representation of the Spread of Pertussis in Grade 1. Each Circle Stands for a Single Child, Whose Initials Are Given Immediately Below It. By Noting the Dates of Onset (Month and Day Below Initials of Affected Children), the Periodic Character of the Spread Is Suggested. The Figures in Parentheses Give the Number of Days the Child in Question Remained in the Schoolroom While Suffering from Pertussis.

Of a total of 112 susceptible children in the school, 57 (51 per cent) developed pertussis—40 (36 per cent) as a result of schoolroom exposure only. It may be seen in Table 1 that this rate is much higher than in the 1st and 3rd grades. In the 1st grade, for instance, there were 18 susceptibles and 11 of them (61 per cent) developed pertussis as the result of schoolroom exposure. Three cases in this grade also had family exposure.

TABLE 1

Distribution of Immune and Susceptible Children According to School Grade

	Grade									
	Kdg.	*1*	*2*	*3*	*4*	*5*	*6*	*7*	*8*	*Total*
Number of children	18	23	21	20	19	31	27	23	23	205
Number immune (history of previous pertussis)	1	5	3	6	8	18	19	13	20	93
Number of susceptibles * escaping infection	7	4	9	3	4	10	7	8	3	55
Number developing pertussis during epidemic	10	14	9	11	7	3	1	2	0	57
a. Schoolroom exposures only	6	11	6	10	4	2	1	0	0	40
b. Schoolroom or family exposures	4	3	3	1	3	1	0	2	0	17

Kdg. = Kindergarten

* Susceptible means a negative history of previous attack of pertussis

The spread of the disease within the 1st grade was interesting. When the date of onset of each case was recorded, the resulting pattern (Figure 2) showed the kind of periodicity that was to be expected. On September 7, 5 days after the opening of school, a boy, K.H., aged 6, developed a slight cough. In his classroom there were 22 other children, only 5 of whom had had the disease previously. No notice of K.H.'s cough was taken until September 13, when it was recognized as pertussis and he was excluded from the school. On September 17, another child came down with a slight cough but attended school until the 23rd. On September 22, still another child began to cough and remained in school until the 26th. A fourth case occurred on September 23 and remained in school until the 27th. A fifth, who became ill on September 25, remained for 2 weeks. Between September 30 and October 22, 9 more cases developed. It will be observed that 4 cases resulted approximately 2 weeks after that of K.H., 7 more approximately 2 weeks later, and 2 more after a third 2 week interval. This periodicity conforms to the usually accepted incubation period of pertussis and supports the contention that the contacts were made in the schoolroom.

In the 3rd grade, a similar schoolroom outbreak occurred. A girl, B.H., aged 8, in the second week of the disease (onset August 22), remained in the classroom for 2 weeks following the opening of school September 2, during which time she was in daily contact with 19 children, 13 of whom were susceptible. Of these 13, 10 contracted the disease. None of this group presumably had family exposure. The first secondary case began to cough on October 1 and remained in school until the 15th. Subsequent cases developed the disease on October 6, 10, 18, 20, 22, and 30. The last case in this classroom developed it on November 9. Thus, of 13 susceptibles in the 3rd grade, 10 (77 per cent) developed pertussis.

In the 5th grade, there were 13 susceptibles among a group of 31 children. A boy, Z.H., in the third week of pertussis, introduced the infection. Only 2 other children developed the disease. There were 18 immune children in this grade, a fact that possibly explains in part the low incidence. Also, it is probable that Z.H. was not

TABLE 2

The Effect of Vaccine on the Incidence of Pertussis

Grade	Total Pupils	Susceptibles	Vaccine		No Vaccine	
			Number	Developed Pertussis	Number	Developed Pertussis
Kdg.	18	17	5	1	12	9
1	23	18	4	2	14	12
2	21	18	8	2	10	7
3	20	14	5	3	9	8
4	19	11	3	0	8	7
5	31	13	3	0	10	3
6	27	8	1	0	7	1
7	23	10	0	0	10	2
8	23	3	0	0	3	0
Total	205	112	29	8	83	49

very infectious at the time when he exposed his classmates.

The manner in which the disease was introduced into each class is illustrated in Figure 1. The arrows indicate the source of infection (certain individuals) and show how the infection was spread from one grade to another. It is apparent that family exposure largely accounted for the spread of the disease into the kindergarten, and into the 2nd, 4th, and 7th grades. The origin of the single case in the 6th grade was not discovered.

The occurrence of pertussis in family groups—The 205 school children had 74 brothers and sisters who did not attend the school. Of these 74 siblings, 14 were preschool susceptibles exposed at home to a school child with pertussis. Thirteen (93 per cent) of this group developed the disease. Of the 205 school children, 112 susceptibles were presumably exposed at school. Twenty-two of them were also exposed at home. Seventeen (80 per cent) of this group became infected. If we consider the two groups together as family exposures, 30 (83 per cent) of the 36 children exposed in the families developed pertussis. As previously stated 57 (51 per cent) of the 112 susceptible school children developed the disease.

The effect of vaccine on the incidence of pertussis—Eight different commercial vaccines were used by the various attending physicians in total dosages which varied from 1.5 to 80 billion organisms. No physician adhered to a standard dosage of a given vaccine for all of his patients. Thus, it was impossible to evaluate any particular preparation. It was possible, however, to group the children who had been injected at least 3 months prior to the onset of the epidemic, with 1 of 6 different commercial vaccines, prepared from freshly isolated strains of *Hemophilus pertussis*. There were 29 such instances among the 112 susceptible school children.

It may be seen in Table 2 that, of the 83 children who had received no vaccine, 49 (59 per cent) developed pertussis, while of the 29 who had been immunized 8 (28 per cent) contracted the disease. This gives a difference in percentages of 31 with the standard error of the difference equal to 10, indicating that the difference is probably significant. In a similar classification of all family exposures, 5 of 7 vaccinated children contracted pertussis as did all of the 21 unvaccinated. The difference in percentages here is 29 with a standard error of 17, a finding which possibly suggests that vaccination was not effective in family exposure, although, obviously, the series of cases is too small to permit a final conclusion.

The results presented above include several instances in which the total

TABLE 3

The Effect of Immunization with Vaccine (50 Billion or More Organisms) against Schoolroom Exposure to Pertussis *

	Total	*Developed Pertussis*	*Difference in Percentages*	*Standard Error*	*Ratio*
Vaccinated	19	2 (10.5%)	43.5	9.4	4.6 to 1
No vaccine	65	35 (54 %)			

* Data shown in Table 2 modified by eliminating all the cases of family exposure and all those immunized with less than 50 billion organisms

dosage was less than 50 billion organisms. If the analysis of the findings is modified to eliminate all cases of family exposure and all children who received less than 50 billion organisms (Table 2), the results (Table 3) definitely indicate that the vaccine exerted a protective influence in schoolroom exposure. Under these conditions we find that only 2 (10.5 per cent) of 19 in the vaccinated group developed pertussis as compared with 35 (54 per cent) of the 65 in the unvaccinated group. The standard error of the difference in the percentages (43.5) is 9.4, giving a ratio between the difference in percentages and its standard error of 4.6 to 1.

In addition to the 29 vaccinated school children, there were 6 vaccinated preschool siblings. In this group of 35 vaccinated children, 14 had received less than 50 billion organisms and 21 more than 50 billion organisms. Ten of the former group developed pertussis, while only 3 of the latter group contracted the disease. These findings suggest that a dose of 50 billion organisms or more affords better protection than does one of less than 50 billion. The difference in the percentages (57) is four times its standard error (14).

SUMMARY

An epidemiological study of an outbreak of pertussis in a suburban public school is presented. Fifty-seven cases (51 per cent) occurred among 112 susceptible children in the school with an enrollment of 205. Forty of the cases followed schoolroom exposure, while 17 cases may have occurred as a result of family contacts.

Among 94 children presumably exposed only in the schoolroom, 40 (42.5 per cent) developed pertussis as compared with 30 (83 per cent) in a group of 36 with family exposure.

Cases resulting from family exposure were important in introducing pertussis into certain grades of the school.

Observations on a small group of 29 children who had been immunized with vaccines prepared from freshly isolated strains of *Hemophilus pertussis* indicated significant protection from schoolroom exposure, particularly when the total dose of vaccine was 50 billion organisms or more.

ACKNOWLEDGMENT: It is a pleasure to acknowledge the fine coöperation of the physicians, the school authorities, and the Health Officers, Dr. Paul A. Lembcke and Dr. Eugene W. Rother, whose assistance made the present study possible.

REFERENCES

1. Luttinger, P. The Epidemiology of Pertussis. Introductory. *Am. J. Dis. Child.*, 12:290–315, 1916.
2. Von Sholly, A. I., Blum, J., and Smith, L. The Therapeutic Value of Pertussis Vaccine in Whooping Cough. *J.A.M.A.*, 68:1451–1456, 1917.
3. Culotta, C. E., Dominick, D., and Harrison, E. R. Epidemiologic Studies in Whooping Cough. *Yale J. Biol. & Med.*, 10:473–483, 1937–1938.
4. Doull, J. A., Shibley, G. S., Haskins, G. E., Bancroft, H., McClelland, J. E., and Hoelscher, H. Active Immunization against Pertussis. Final Report on the Cleveland Immunization of 1934–1935. *Am. J. Dis. Child.*, 58:691–698, 1939.
5. Faber, H. K., and Miller, J. J., Jr. Immunization Against Pertussis. *Am. J. Dis. Child.*, 60: 1172–1173, 1940.

Vol. 36

American Journal of Public Health
and THE NATION'S HEALTH

Official Monthly Publication of the American Public Health Association

Volume 36 October, 1946 Number 10

C.-E. A. WINSLOW, DR.P.H., *Editor*
LEONA BAUMGARTNER, M.D., *Associate Editor*
ARTHUR P. MILLER, C.E., *Associate Editor*
MARTIN FROBISHER, JR., Sc.D., *Associate Editor*
JAMES E. PERKINS, M.D., *Associate Editor*
AUGUSTA JAY, *Editorial Associate*

Editorial Board

REGINALD M. ATWATER, M.D.
Chairman, and Managing Editor

IRA V. HISCOCK, Sc.D.
KENNETH F. MAXCY, M.D.
RALPH S. MUCKENFUSS, M.D.
ALTON S. POPE, M.D.
C.-E. A. WINSLOW, DR.P.H.

ADVANCES IN FEDERAL HEALTH LEGISLATION AND ORGANIZATION

THE 79th Congress made an excellent record in the international field; but its contributions in the area of domestic legislation were disappointing. The House of Representatives, in particular, was markedly subservient to private vested interests. As *The New Republic* said "Congress has gone home for the year without doing anything to provide millions of American citizens with decent homes, adequate medical care, social security protection, or a minimum living wage." The Kilgore-Magnuson bill for a National Science Foundation passed the Senate but died in the Interstate and Foreign Commerce Committee of the House. The Wagner-Ellender-Taft bill for a nation-wide housing program passed the Senate and was held up by the filibustering tactics of two or three members of the House Committee on Banking and Currency, at the behest of the Real Estate Lobby. The House Ways and Means Committee completely emasculated the bill for extending social security benefits including compensation for permanent disability. In each of these cases, the groups concerned would have feared to record themselves publicly by adverse votes and successfully used a cloak-and-dagger technique behind the doors of a committee room.

The bill carrying an appropriation of 100 million dollars for a comprehensive national program of research on cancer control was defeated in the House; but the regular appropriation of the U. S. Public Health Service for this purpose was increased to $1,772,000.

Three important steps were, however, taken in the field of public health. In some ways the most important of these was the passage of what was originally the Hill-Burton Bill for developing a really adequate national hospital program. Even this measure was marred by two objectionable "riders"; one providing that a Hospital Council appointed by the Federal Security Administrator may veto certain actions of the Surgeon General of the U. S. Public Health Service, including disapproval of a state plan because it fails to conform with federal law, and another providing that a state agency may appeal to the federal courts from denial of a particular project. This is pork barrel legislation, to which Presi-

dent Truman strongly objected in signing the bill. In other respects, however, the measure is admirable. It involves federal appropriations of $3,000,000 for the survey of hospital and health center needs and $375,000,000 for construction of physical facilities, the federal contribution to be matched in the ratio of 2:1 by local funds. The program will extend over a period of 5 years and will be administered by the Surgeon General, with the advice of the Federal Hospital Council mentioned above, but provides the fullest latitude for each state to develop its own program of hospital and health center construction to be administered by state authorities under specified standards. Project sponsors may be states, cities, or other governmental agencies, or private non-profit hospitals.

The estimates of the U. S. Public Health Service indicate a total ultimate need of 169,579 additional general hospital beds, plus replacement of 83,899 beds in the United States (to reach a ratio of 4.5 beds per 1,000 population); of 65,189 new tuberculosis beds, plus replacement of 17,313 beds (to reach a ratio of 2.5 beds per annual death from this disease); of 208,963 beds for nervous and mental diseases plus replacement of 99,583 beds (to reach a ratio of 5 per 100 population); of 270,173 new beds for chronic diseases; and of 4,503 public health centers. The present five year appropriation covers 23 per cent of the estimated total ultimate need, as outlined above.

A second major achievement of this session in the field of public health was the passage of the National Mental Health Act (the Priest Bill). This measure provides $7,500,000 for the erection and equipment of hospital and laboratory facilities to be operated by the U. S. Public Health Service as the stimulating center for research, experimentation, and specialized training in this most important field; with $10,000,000 for grants to the states, and an additional $1,000,000 for demonstrations and personnel to assist the states in research and training. The entire program is to be operated under a special Advisory Council of experts appointed by the Surgeon General.

Another notable advance of the year is the reorganization of the Federal Security Agency under which most of the federal health activities will now function. This was one of three measures of reform presented by President Truman under the existing laws which provide that plans for reorganization of federal bureaus proposed by the President become automatically effective if not disapproved by both Houses of Congress within a specified period of time. True to its reactionary form, the House of Representatives promptly disapproved all three reorganization plans presented by the President, but fortunately the Senate disapproved only one of the three.

Reorganization Plan No. 2, with which we are here concerned was one of the survivors and went into force on July 16 last. It provides a long step forward in the coördination of the various health activities of the federal government, a goal toward which our Association has striven for many years. In particular, it brings the Children's Bureau, the Vital Statistics Division of the Census, and the Food and Drug Administration into the same general agency in which the United States Public Health Service functions.

The Federal Security Agency will now include four main operating branches as follows:

Social Security Administration, under Commissioner A. J. Altmeyer; to include the old-age and survivors insurance, employment security, and public assistance programs of the old Social Security Board and the activities of the

Children's Bureau (which will continue under the direction of Katherine Lenroot).

Education, to include the functions of the old Office of Education.

Public Health, under Surgeon General Parran; to include the past functions of the U. S. Public Health Service, the management of St. Elizabeths and Freedmen's Hospital and the work of the division of Vital Statistics (transferred from the Department of Commerce, but remaining under the direction of Halbert Dunn).

Office of Special Services, including the work of the Food and Drug Administration and of several other activities relating to unemployment compensation, vocational rehabilitation, etc.

The position allotted to the Children's Bureau in this program will not fully satisfy more ardent partisans of either "health" or "welfare." The former would have preferred to see it united with the U. S. Public Health Service; the latter to have it recognized as a primary division of the F.S.A., reporting directly to the Administrator of the Federal Security Agency. It should be remembered, however, that the very nature of the Children's Bureau presents problems which are not susceptible of easy rough-and-ready solution.

From a "functionalist's" point of view, the Children's Bureau is and always has been illogical in its organization as an independent unit of government. Its purpose obviously is to serve a group of individuals in the population that cannot organize and speak for themselves like the Veterans, but a group that, even more than the Veterans, requires that special attention be given to it by the government if the nation's interest is to be well served. The old arguments that the needs of children cannot be pigeonholed into health and welfare compartments and that the "child as a whole" must be the center of our attention are as true today as in 1912 when the Children's Bureau came into existence. The welfare interests of children are no more limited to the "poor" or to those in receipt of public assistance than are their health interests. A program of child welfare must be kept as free of a "means test" as the health and medical program.

Commenting on the relationship of the Children's Bureau programs to other services within the Agency, Administrator Watson B. Miller has said: "We are very mindful of youth's stake in all provisions for health, education, and security —and of the government's obligation to make adequate provisions to the end that all children and young people may get a good start in life. For administrative purposes, the Children's Bureau, with its programs for maternal and child health, child welfare, and crippled children's services, has been placed in the Social Security Administration. But its relationships with both health and education are fully recognized, and effective coördination in this field will be one of our major objectives. Studies will be inaugurated at once and maintained on a continuing basis, looking toward improvements in procedures and the strengthening of relationships."

Administrator Miller has delegated his authority over the Children's Bureau to Mr. Altmeyer, the Commissioner of Social Security, who in turn has delegated back to the Chief of the Children's Bureau all previous functions including approval of state plans for maternal and child health, crippled children, and child welfare services. There appears to be every intention on the part of the Commissioner to allow the Bureau to function freely as in the past. Relationships between the Children's Bureau and the Public Health Service will continue to be direct. All in all, the proposed plan seems as sound a one as could be worked out at the present moment. The sum allotted to the maternal

and child health and crippled children's services was doubled by an increase to $22,000,000 in the last hours of the Session.

Health officers will be particularly pleased that the reorganization plan includes direction to the FSA to establish, in so far as practical, uniform standards and procedures so that state agencies administering several grant programs may submit a single state plan, under unified fiscal, personnel, and other policies. The greatest single cause of dissatisfaction with past programs of Federal Aid has been the necessity of submitting separate budgets and meeting separate regulations for general public health, tuberculosis, venereal disease, child welfare, crippled children, and EMIC activities. A plan for a combined budget has already been drawn up (by coöperation between the U. S. Public Health Service and the Children's Bureau), and it is hoped that a single auditing plan and a single merit system plan may soon be in operation.

On the whole, the provisions of Reorganization Plan No. 2 mark a long step along the road to better coördination in the upbuilding of a comprehensive and soundly conceived national health program. They will make possible the experimental development of relationships which we hope may some day be crystallized in a full-fledged cabinet Department of Health and Welfare.

REVISION OF CONSTITUTION AND BY-LAWS

AN important task of the Association at its Annual Meeting next month will be consideration of the revised Constitution prepared by the Committee on Constitution and By-Laws, under the chairmanship of Dr. E. S. Godfrey. The full text of the proposed revision has been presented in the columns of this *Journal*.[1]

The new draft involves only minor substantive changes and apparently avoids any controversial issues. It is essentially a rearrangement of the old Constitution and By-Laws in the interest of simplicity and clarity.

We believe that the Association is fortunate in the brevity and conciseness of its basic Constitution. The By-Laws will remain—as at present—within the jurisdiction of the Governing Council and can be modified as experience may suggest. The Constitution however, which is, and should be, relatively stable, is a document of not much over 2,000 words and deals only with fundamental and basic principles. It is, in this respect, a refreshing contrast to the constitutions of many professional societies which contain detailed provisions hampering progress at every turn.

The Association is particularly to be congratulated on the plan on which its Governing Council is established. Some of us can well remember the political manipulations which dominated our own annual meetings prior to the adoption of the present Constitution. The atmosphere has completely changed today. When, as in some other organizations, control rests in a body of delegates elected each year solely by local geographical units for that purpose, there is a real beginning of representative government; but there remains the liability of log-rolling characteristic of a party convention. Our own plan, as in force now for many years, gives us a Governing Council which includes representation of local geographical groups through the representatives of Affiliated Societies and Regional Branches; representatives of the diverse technical interests of the Association through Section delegates; and representatives of the elder statesmen of

the Association through the elective councillors. This assures a unique balance of power and has resulted in a complete absence of "politics," in the derogatory sense of that term and a consideration of policies and a choice of officers governed by broad and constructive considerations. With our growing membership (which has already passed the 10,000 mark), it is most gratifying that we have such a sound basis on which to build for the future.

REFERENCE

1. Report of the Committee on Constitution and By-Laws of the American Public Health Association—Edward S. Godfrey, Jr., M.D., Chairman. *A.J.P.H.*, 36, 9:1048 (Sept.), 1946.

RESEARCH IN INDUSTRIAL HYGIENE

THE history of industrial hygiene in the United States is perhaps unique in respect to the proportion of basic contributions to knowledge which have been made by governmental agencies. In microbiology, physiological hygiene, and vital statistics, major advances have commonly been made in university laboratories. The fine contributions of the U. S. Public Health Service to epidemiology are balanced by a mass of similar advances made in the schools of public health. Even in sanitary engineering, where progress has been embodied largely in the reports of official boards and commissions, university professors have played a most important rôle.

In industrial hygiene, however, the balance is on the other side of the scales. Harvard has made major contributions to our knowledge; but, with this exception, the rôle of the universities has not been large. Alice Hamilton, the most outstanding pioneer in this field, began her work as the agent of a commission of the State of Illinois. During the past twenty years, the United States Public Health Service, in collaboration with the United States Bureau of Mines, has been the center of the whole movement. State health departments, in Massachusetts, Connecticut, and other states have provided distinguished leadership.

The United States Public Health Service's monthly bulletin *Industrial Hygiene* gives a current picture of a remarkably vigorous movement, in which governmental agencies, professional groups, and industry are actively coöperating. Last April 1,584 physicians, dentists, nurses, engineers, and chemists met in conference at Chicago to discuss their common problems.

It is of interest to note that fundamental contributions in this field are by no means limited to agencies primarily representing the public health field. The Safety Council, some years ago, sponsored basic studies of benzol poisoning and spray coating. The Division of Industrial Hygiene and Safety Standards of the New York State Department of Labor publishes a *Monthly Review* (actually appearing every two weeks) which contains a series of solid scientific studies of the greatest value. During the first three months of the present year, this *Review* presented new and important data on Hood and Booth Types Available to Solve Typical Ventilation Problems; on Control of Health Hazards from Rubber Cementing Operations in Shoe and Slipper Manufacture; on Health Hazards in the Use of Pneumatic Tools (by Ludwig Teleky, an outstanding international leader in this field); on Mercury Vapor Exposure in the Mercury Thermometer Industry; and on Studies with Paraphenylenediamine in Fur Workers.

A particularly significant development is the recent coöperation between the United States Public Health Service and the American Society of Heating and

Ventilating Engineers. This Society, by its constitution, allots 40 per cent of its membership dues to research and maintains an excellently equipped research laboratory at Cleveland. The U. S. Public Health Service last year assigned A. D. Brandt to work in this laboratory, and the first fruits of this coöperative study have recently appeared in a study of Energy Losses at Suction Hoods[1] which furnishes basic data necessary for the design of such hoods which have been greatly needed and will be invaluable alike to designers of local exhaust systems and to officials controlling the operation of such systems.

REFERENCE

1. Brandt, A. D., and Steffy, R. J. Energy Losses at Suction Hoods, *Heating Piping and Air-Conditioning*. American Society of Heating and Ventilating Engineers Journal Section, 18:109 (Apr.), 1946.

Best Sellers in the Book Service for September

The Control of Communicable Diseases. American Public Health Association. 6th ed. (1945) ..... $ .35

Diagnostic Procedures and Reagents. American Public Health Association. 2nd ed. (1945) 4.00

Microbiology of Foods. F. W. Tanner. 2nd ed. (1944) 12.50

Public Health Administration in the United States. W. G. Smillie. 2nd ed. (1940) 4.00

Recommended Practice for Design, Equipment and Operation of Swimming Pools and Other Public Bathing Places. American Public Health Association. (1942) ..... .50

Standard Methods for the Examination of Dairy Products. American Public Health Association. 8th ed. (1941) .....paper 1.75

Suggested School Health Policies. National Committee on School Health Policies. 2nd ed. rev. (1945) ..... .25

Topley and Wilson's Principles of Bacteriology and Immunity. G. S. Wilson and A. A. Miles. 3rd ed. rev. 2 vols. (1946) 12.00

Order from the Book Service

AMERICAN PUBLIC HEALTH ASSOCIATION

BOOKS AND REPORTS

All reviews are prepared on invitation. Unsolicited reviews cannot be accepted. All books reviewed in these columns may be purchased through the Book Service.

Alcohol, Science and Society—*New Haven: Quarterly Journal of Studies on Alcohol,* 1945. 473 pp. Price, $5.00.

These twenty-nine lectures and discussions are of very uneven quality as is apt to be the way with a symposium intended to give comprehensive attention to such a wide scope of matter by persons of unequal competence. The medical, social, legal, educational, and religious factors are presented, with the sociologists rather leaning over backward to explain, justify, excuse, and apologize for that fraction of emotionally abnormal and mentally unstable people who find relief from their frustrations and tensions in the drinking of liquor.

The volume is a valuable mirror in which the struggle between the force of facts and traditional self-deception can be seen. In an obvious attempt to be objective, broad, generous, fair in weighing reasons and results, the authors often ignore the clear evidence of inferiority of conduct, health, work and social relations constantly exhibited by the customary user of alcoholic beverages today.

Haggard continues to call alcohol a food and to support its "moderate" use. His chapter on physiological effects is admirable. Jellinek seems to have ignored the classical studies of Benedict and Dodge. There is much theorizing in the fields of personality and sociology but no statesmanlike or scholarly expression of an authoritative kind, and the complexities of the present social pattern are but little clarified by the seven effects attributed to them in lecture 14.

This book is not only a symbol of a notable academic contribution in a field of great scientific and social importance but reveals the strength and usefulness of collective effort to explore and express all the truth that has been established. The reading public should be very wide. HAVEN EMERSON

Food Buyer's Information Book—*By Alexander Todoroff. Chicago: The Grocery Trade Publishing House,* 1946. 380 pp. Price, $4.00.

The contents of this volume, prepared in a convenient and concise question and answer form, describe nearly all the foods on today's market. The approach is objective and free of any commercial or propaganda references. The author discusses practical and sometimes controversial questions about the foods we buy in our groceries. He offers an outline of the varieties of items and methods of marketing, together with suggestions for the use of some products not widely known. This is, however, more a general survey than a detailed report. Perhaps the most valuable contribution is the guidance to the proper selection of different foods by the purchaser. This small encyclopedia should find a welcome place in the library of any housewife, cook, or buyer of foodstuffs. It is thoroughly indexed for rapid use.

VIRGINIA P. ELDER

How to Read Statistics—*By R. L. C. Butsch, Ph.D. Milwaukee: Bruce Publishing Company,* 1946. 184 pp. Price, $2.50.

The primary purpose of this book is to assist those workers in the fields of

education, social science, and psychology, who do not have a thorough knowledge of statistical techniques. The book carries the reader through a nontechnical interpretation of statistical treatment and terminology without going into computational details. It will probably be of no interest to public health workers, since the data and many of the techniques considered are limited to the educational field. In fact, many of the data appear to be highly artificial. While the section on the frequency distribution and graphical methods makes interesting reading, the long section devoted to the various correlation coefficients is rather poorly done and certainly of no interest to the public health worker. The section on chance variation is likewise of limited utility and appears to be very ill-balanced. JOHN W. FERTIG

Katharine Kent — *By Mary S. Gardner. New York: Macmillan,* 1946. 298 pp. Price, $2.75.

Miss Gardner's new book, *Katharine Kent,* might well have been subtitled "A Biography of a Public Health Nurse," for it takes Katharine from the day of her graduation from a school of nursing through thirty years of absorbing experience in the rapidly developing field of public health. Katharine learns nearly everything the hard way, thereby serving to show the right way to prepare for public health nursing. Because she learns from life as well as from books and from her friendly advisers most of all, she emerges at the close of the book a poised, mature, and competent administrator and leader in her field. It is a satisfaction to say that Miss Gardner has bent her plot to her purposes in expounding the principles of public health nursing and has not exploited her material for the sake of a dramatic story, tempting though this must have been. Indeed, this book is not fiction in the usual sense; it is historical and biographical reporting of the growth of a great movement—public health nursing—and Katharine's activities should be read with this serious accomplishment in mind.

I believe public health nurses, health officers, and the "lay" public concerned with community health will enjoy and greatly profit by reading this book, especially board and committee members. It is full of Miss Gardner's own sound philosophy and high ideals, gleaned from a very rich experience in public health nursing, locally, nationally, and internationally. It "interprets" very successfully. I am a little doubtful whether student nurses —who should read the book—will stay with the author at all points. Some of the discussions dealing with organization are a little abstruse for those without experience, but the human interest in Katharine herself will carry all readers to the end. Those nurses now faced with the problem of help to the countries abroad following a second world war will find Miss Gardner's report of conditions overseas in 1921–1922 especially pertinent and timely.

Because this book is excellent supplementary teaching material, this reviewer mourns the author's failure to "name names." Why omit the illustrious name of Lillian D. Wald? Why refer only indirectly or by initials to our very wonderful leaders of those early days—Ella Phillips Crandall, Jane Delano, Anne Strong, Edna Foley, or among the living such advisers as Drs. Winslow and Parran, Miss Nutting and Miss Goodrich? Instructors will have to supply these names. This reviewer missed also some of the colorful details dear to a public health nurse's heart: the contents of that first nursing bag, Miss Gardner, your uniform, your very own first-hand experience in launching the N.O.P.H.N. on that hot June day in Chicago. In fact, many will wish

you had written this in the first person singular, as only you can. Or are you saving these treasures for your next book—an autobiography?

DOROTHY DEMING

Medical Services by Government—*By Bernhard J. Stern, Ph.D. New York: Commonwealth Fund,* 1946. 208 pp. Price, $1.50.

This monograph, one of a series of publications sponsored by the New York Academy of Medicine Committee on Medicine and the Changing Order, gives a brief account of the historical development and present organization of medical care provided at taxpayers' expense. The presentation is focused on description of the part played by the various units of government and on administrative questions rather than on analysis of existing programs by type and on evaluation of the basic principles of policy that have emerged. The book may be useful as an introduction to the study of medical care, but its value is impaired by inconsistency in arranging the subject matter and inadequate treatment of several of the outstanding public medical care programs.

FRANZ GOLDMANN

Microanalysis of Food and Drug Products—*Prepared by Food and Drug Administration. Washington: U. S. Govt. Ptg. Office,* 1944. 171 pp. Price, $.30.

The U. S. Food, Drug, and Cosmetic Act contains provisions relating to sanitation which were not included in the prior Food and Drug Act. This circular has resulted from several years' work in the enforcement of the sanitation provisions of the new Act. In some respects it is very elementary, in others, highly complex, but in all respects it is accurate.

There are chapters on optical crystallography, microscopic examination for filth, methods for filth recovery, and interesting chapters on "insectology" and on molds in food. The chapter on plant sanitation contains four very fine essays which point out the difference between the "frills" which may be of esthetic value only and the hidden sources of unsanitation. The circular is profusely illustrated by drawings, photographs and photomicrographs.

HERMANN C. LYTHGOE

Principles and Practice of Tropical Medicine—*By L. Everard Napier. New York: Macmillan,* 1946. 917 pp., illus. Price, $11.00.

This is the completed work which was published in part in Calcutta in 1943, and was reviewed in this *Journal* (October, 1944). Dr. Napier completed the book while in the United States as Visiting Professor of Tropical Medicine at Tulane University, New York University, and Harvard University. The new portion of the book comprising the last 395 pages consists of chapters on yaws, tropical skin ulcerations, lymphopathia venereum, skin diseases of the tropics, helminth infections, nutritional diseases, anemias, snake bites, and rabies, together with a complete index of the book. These chapters are of comparable excellence to those in the preliminary publication. The chapters on hookworm, filariasis, and nutritional diseases are exceptionally well done and the chapter on snake bite includes an excellent table of classification of snakes, and a colored plate of poisonous snakes of India.

As a complete work on tropical diseases of medium length by a single author, this work will stand very high in medical literature, and can be recommended as an essential volume in every medical and public health library, and as a textbook for students and practitioners. In the preparation of the American volume the publishers have employed lithograph plates of the

Calcutta portion in which a few revisions have been incorporated in order to bring the work up-to-date. The American portion of the book is produced in identical type so that the work is a uniform production of printing.

HENRY E. MELENEY

Rehabilitation, Its Principles and Practice—*By John Eisele Davis, M.A., Sc.D., Veterans Administration Facility, Perry Point, Maryland. (rev. and enl. ed.) New York: Barnes and Company,* 1946. 264 pp. Price, $3.00.

The revised edition of this book carries a slightly altered title and contains some forty new pages of material on the treatment of war neuroses. There are also some minor additions in the sections on alcoholism and on psychological testing. The balance is essentially a reprinting of the 1943 edition.

This book is a scholarly, technical, at times highly abstract, reference book, concerned mainly with the theoretical background of rehabilitation therapy. It is profusely documented with references and quotations from the literature of psychiatry, psychoanalysis, psychology, and recreational and occupational therapy which relate to this subject.

The main purpose of the book is to provide an unbiased review of the prevailing approaches to rehabilitation work with psychotic and psychoneurotic patients during acute and convalescent stages of illness. This specialized focus on the institutional level of therapy, which is incidentally not implied in the title, falls short of meeting the needs of those who are engaged in rehabilitation work on a community level with veterans and others having mental and emotional handicaps of a less serious nature.

With this rather important qualification as to its practical usefulness, the book can be recommended as the most comprehensive and authoritative review of the technical formulations upon which any program for the rehabilitation of mentally and emotionally handicapped individuals must be constructed.

LEONARD E. HIMLER

Studies on Brazilian Anophelines from Northeast and Amazon Regions—*By O. R. Causey, L. M. Deane and M. P. Deane. American Journal of Hygiene Monograph Series, No. 18. Baltimore: Johns Hopkins,* 1946. 49 pp., 20 plates. Price, $1.10.

This volume consists of three separate keys for the identification of thirty-odd Brazilian anopheline mosquitoes based on adult female, male genitalic and larval characteristics. These, together with a previously published (*American Journal of Hygiene,* 39:1–7, 1944) key to the eggs of most of these same species, represent the quintessence of a prodigious and exacting labor in the jungles of Brazil. The eggs secured during more than 50,000 isolated ovipositions of identified female anophelines were reared to adult mosquitoes. This "pedigreed" material made possible the precise correlation of egg, larval, and adult female characteristics used in species recognition, with the specific distinctions displayed by the structure of male genitalia. These last are generally held to be the most dependable criteria for anopheline speciation.

The key characteristics are illustrated bountifully and well by line drawings except in the case of those derived from male genitalia. Most of these are shown as photomicrographs. Acknowledging the excellence and authenticity of these representations, it is suggested that well executed line drawings might have portrayed with greater clarity the modal characteristics for each species manifested by male gentalic structures.

The keys are preceded by a brief dis-

cussion of the relative importance as malaria vectors of the anophelines described. Information as to their geographic and ecologic distribution is given also. The volume is beautifully printed. JUSTIN M. ANDREWS

Water Treatment and Purification —*By William J. Ryan. (2nd ed.) New York: McGraw-Hill,* 1946. 270 pp. Price, $2.75.

The second edition of this descriptive presentation of the several processes and methods of water purification and treatment includes the major developments in this field since the first edition was published in 1937.

Although the preface indicates that this book has been prepared for the use of technical men, the description and simplified treatment of the subject matter will recommend it to the interested general reader. The engineer concerned with design or operation problems will find it necessary to supplement the condensed presentation of the text by the use of the well selected bibliographies to be found at the chapter endings.

The subjects of water softening and boiler water treatment are described in considerably more detail than are the treatments used in preparing water for domestic use, indicating the mechanical rather than the sanitary engineering approach to the subject. For this reason the book will be of greater interest to persons in industrial activities than to those engaged in public health work. EARNEST BOYCE

Women in Industry—*By Anna M. Baetjer, Sc.D. Philadelphia: Saunders,* 1946. 344 pp. Price, $4.00.

It is most unfortunate that this book was not written before the recent war instead of after, since it contains the answers to practically all of the questions faced by industrial physicians, personnel directors, and others in whose plants women were being employed in production work for the first time. Since in "normal" times some 11,000,000 women may be gainfully employed, the value of this book is not limited to periods of emergency.

Dr. Baetjer is to be heartily commended for "debunking" some of the commonly accepted but unfounded notions in regard to the susceptibility of women to occupational diseases and in regard to the handling of employees who become pregnant. Her book accomplishes two major purposes: it assembles in one place a great mass of data relating to the employment of women, but it also points out the many gaps in existing information. Investigators in search of a problem will find many ideas in this book.

LEONARD J. GOLDWATER

Personal Hygiene Applied —*By Jesse Feiring Williams, M.D., Sc.D. (8th rev. ed.) Philadelphia: Saunders,* 1946. 531 pp. Price, $2.50.

An author rarely has the opportunity to guide his book through eight revisions covering almost a quarter century of progress in his special field. Dr. Williams, now Emeritus Professor of Physical Education, Columbia University, is to be congratulated upon this unusual privilege. The first edition of his college textbook appeared in 1922. By comparing the content of the first with the eighth edition it has been possible to note where most progress in the field has been made and where changes in emphasis have occurred.

Dr. Williams's belief in hygiene as a way "to live most and serve best" has not faltered with the years. His emphasis on posture and big muscle activity as a way to health has diminished. The chapters, "Food and Nutrition" and "Prevention of Specific Diseases" have prospered most over the years. The latter chapter is outstanding and one wishes that it

might have been enlarged to include community organization for personal health. A new chapter, "Man and His Behavior," adds a note on mental hygiene but its message could have been stronger if it had been combined with the chapter, "Nerves and Emotions," and if more recent references in this field had been included. Certain inaccuracies in the discussion of colds and tuberculosis in the chapter, "Air, Respiration and Health," might have been avoided if these subjects had been approached via Prevention of Specific Diseases. The author attacks the use of tobacco, alcohol, and patent medicines with his usual vehemence.

Usefulness of the book as a text is enhanced by inclusion of "Questions and Exercises" and "Selected Readings" at the end of each chapter and by the "Suggested List of Topics for a Term Paper" (Appendix A). Diagrams and charts are also useful to this purpose while the pictures of sports activities add little. The book will continue its long usefulness as a college text until the hoped-for day when the high school student is taught personal hygiene and the college student is prepared to study community organization for public health.

CHARLES E. SHEPARD

Textbook of Bacteriology — *By Edwin O. Jordan, Ph.D., and William Burrows, Ph.D. (14th ed.) Philadelphia: Saunders,* 1946. 909 pp. Price, $7.00.

This textbook grows more complete and comprehensive with each printing. As in the previous edition, certain sections are rewritten rather than revised, including those dealing with Asiatic cholera, virus diseases, especially influenza and encephalitis, the pleuropneumonia group of microörganisms, the antigenic structure of *Salmonella,* and rickettsial diseases. Entirely new, and excellent, sections on medical mycology and parasitology replace chapters previously devoted to these subjects, and new sections are added on respiratory enzymes, antibiotics, sulfonamides, iso-agglutinins and antibodies, pinta, primary atypical pneumonia, postvaccination hepatitis, and epidemic kerato-conjunctivitis.

The volume is attractively printed on excellent stock and generously illustrated, largely with new and original photographs and drawings, a few in color.

The coverage of each subject is admirably adapted to the needs of college, university, and medical students for whom this will continue to be a standard text. EDMUND K. KLINE

Poisons—Their Properties, Chemical Identification, Symptoms and Emergency Treatment—*By Vincent J. Brookes and Hubert N. Alyea. New York: D. Van Nostrand Co., Inc.,* 1946. 209 pp. Price, $3.00.

With a minimum of technical language, some 90 of the more common poisons, alphabetically arranged, are discussed under the particular headings of general information concerning the poison itself; identification by chemical means; the symptoms caused or developed, that is, identification of the poison by means of the physiological response induced; and the emergency treatment or first-aid to be rendered. The first, third, and fourth headings are also summarized in tabular form. The physiological effects and the permissible working concentration of about 70 more compounds which may be industrial hazards are briefly described. An introductory chapter is devoted to factors to be noted in making a poison investigation and another deals with basic information concerning poisons and poisoning such as their classification by symptoms and general emergency treatment as in the use of emetics and antidotes. A small section is devoted to

poisoning from foods, plants, snakes, and spiders, and, in addition, artificial respiration, the gas mask, the inhalator, and treatment for shock are briefly discussed.

This book contains useful information presented in a systematic manner which should prove to be valuable to police and peace officers, particularly, and also to food and drug inspectors, industrial hygienists, pharmacists, nurses, and physicians. Some chemists may also find the book useful. It has an appendix which includes a glossary and several practical tables of measurement. A very few typographical errors noticed show care in proof reading and the large bold type used for captions for the poisons discussed should prove helpful in finding a reference. This text is a good book to have around.

MORRIS B. JACOBS

Nursing in Commerce and Industry—*By Bethel J. McGrath, R.N. New York: The Commonwealth Fund,* 1946. 356 pp. Price, $3.00.

Benefiting from experience accumulated during the war years, this work brings to the industrial medical literature an accurate and complete appraisal of the limitless opportunities presented to the nurse in industry. The entirety of this specialized field is drawn against a background descriptive of the concepts of modern business and the full program that has become medical care in industry.

The particular problems of employee relations, the worker's environment, industrial accidents and health hazards, nutrition, mental hygiene, and nursing records are covered from the viewpoint of practical application, and in this practicality lies the value of the book. The author is acutely aware of current conditions in the medical departments of industry, and conveys this understanding to the reader in a clear, attractive style. The sections on "Problems Peculiar to Women in Industry" and "Workmen's Compensation" are approached realistically, and the material on health promotion and orientation of the new employee is pithy and to the point. The space requirements of industrial cafeterias, so well delineated, are valuable criteria rarely found in contemporary literature.

The author has not been consistent in her phraseology, using both the terms "pre-placement" and "pre-employment" physical examinations. The latter is distinctly not the choice of the industrial physician. The reviewer disagrees with the wisdom of the nurse conducting any procedure even suggestive of a pre-placement physical appraisal, and likewise with the topical administration of certain forms of chemotherapeutic agents, two procedures discussed in the publication. The terms "upper leg" and "lower leg" as anatomical designations should be stricken from an otherwise well written, well documented text. The references are accepted treatises, and are fairly current.

The book is recommended particularly for those nurses interested in an industrial career, and for those women now in industrial nursing who have not realized the rich potentialities, fascination, and rewards of the full health program now being executed in modern industry.

J. S. FELTON

Aquatic Standards for Y.M.C.A. Camps—*By Thomas Kirk Cureton, Jr., and Richard H. Pohndorf. New York: Association Press,* 1946. 74 pp. Price, $.75.

While these standards have been developed for Y.M.C.A. camps, they are just as useful to any group interested in waterfront activities. They provide the answers to many questions for which standards do not exist or are hard to find, such as safe depth for bathing areas according to ability to swim, size

of area, bathing load, safe freeboard on a boat, construction of waterfront equipment, contents of first aid kit, etc. The volume includes working drawings of docks, control towers, and bathing areas, and examinations for those interested in supervising waterfront activities. The introduction asserts that these standards are attainable and must be attained for the well-being of the campers. In the reviewer's opinion many camps are operating safely with less than these standards provide.

HERBERT J. DUNSMORE

Manson's Tropical Diseases—*Edited by Philip H. Manson-Bahr, G.M.G., D.S.O., M.A., M.D., D.T.M., and H. Cantab, F.R.C.P. (Lond.). Baltimore: Williams & Wilkins,* 1945. 1,068 pp. Price, $12.00.

This classic in tropical medicine has again been brought up-to-date in a field which has made great strides in the past few years. This volume includes discussions not only of the so-called tropical diseases but also the common world-wide diseases as they affect people in the tropics.

The emphasis of this book is one of diagnosis and treatment, and the author's wide experience and extensive use of current literature make it of greatest value in the practice of medicine. Through the discussions of various parasitic life cycles and epidemiology, the methods of prevention are briefly outlined.

A new and very useful section of "Tables of drugs for the treatment of tropical diseases" briefly summarizes the accepted drugs in use today. Structural chemical formulas are included which aid greatly in understanding relationships of the various drugs. Several inaccuracies are present in this summary, which make it advisable to go to the general text for details of therapy.

This volume has been kept relatively compact despite the profusion of good illustrations and the extensive field covered, and it remains a most useful and complete resource in the practice of tropical medicine.

HAROLD W. BROWN

Public Health Nursing in Canada—*By Florence H. M. Emory and others. Toronto: Macmillan,* 1945. 554 pp., illus. Price, $3.00.

Written for Canadian public health nursing students, this book will also be of interest to teachers, students, and practitioners of public health nursing in the United States.

Part I discusses the principles and general practice of public health nursing in Canada. A wide range of topics is covered which means that all must be briefly discussed. The list of well selected references will guide readers in their search for further help on specific problems. *Chapter XV* on National Health Insurance is timely. Similarities to the situation in the United States stand out. *Part II* deals with methods and technical procedures in certain branches of public health nursing in Canada. To nurses in the United States the brief discussions of the development of certain services, such as visiting nursing and child hygiene, will be of special interest. The procedures and techniques are chiefly valuable for making possible a comparison between practices in the two countries. There are many similarities as one would expect.

To one schooled in the present "digest magazine" emphasis on brevity of words and sentences, the task of finding the central thought in some paragraphs will seem arduous. Certain changes in format would make the headings stand out more clearly and would assist the reader in gaining a quick grasp of the content.

ANNA FILLMORE

A SELECTED PUBLIC HEALTH BIBLIOGRAPHY WITH ANNOTATIONS

RAYMOND S. PATTERSON, PH.D.

This You Must Read—A distinguished committee has prepared a brief primer on poliomyelitis and its treatment. Whatever your job may be in public health you will want to know the latest about the disease that, more than any other, creates widespread apprehension. The primer ends with the reminder that polio patients are not cured, they recover and we can only assist in that recovery to make it as complete and perfect as possible.

ANON. Infantile Paralysis, or Acute Poliomyelitis. J.A.M.A. 131, 17:1411 (Aug. 24), 1946.

Hats Off for This One!—Metropolitan Baltimore is going about the saving of premature infant lives in a big way. Fire department ambulances will transport the preemies to a new hospital ward. Heated, oxygenated carrying trunks are provided and nurses and attendants will be taught what to do. Pray that other cities will do likewise.

ANON. Fire Department Ambulances Transport Premature Infants to New Hospital Ward. Baltimore Health News. 23, 8:53 (Aug.), 1946.

Diphtheria Is Preventable—Diphtheria increases, and there seems to be a tendency for the disease to become relatively more prevalent among older age groups.

ANON. Diphtheria Mortality in Large Cities in the United States in 1945. J.A.M.A. 131, 31:1053 (July 27), 1946.

Medical Care—You may experience a pleasant glow just to see an editorial in a medical journal (British) in which social medicine is discussed without heat. There is no billingsgate, no use of fighting words, just an unemotional reporting of the slow progress of the National Health Service Bill through the legislative mill. In an accompanying supplement, the changes are reported in detail.

ANON. The Committee Stage. Brit. M. J. No. 4463, p. 91 (July 20), 1946.

About Cancer and Your State—How is your state-wide cancer control program progressing? This account presents the status of the work, if any, in each state last year and tells what a competent committee thinks should be done. Though there are heartening accomplishments here and there, the record as a whole is something this wealthy nation should weep over.

ANON. Cancer Facilities and Service. J. Nat. Cancer Inst. 6, 5:239 (Apr.), 1946.

Under Which Auspices?—To clear the air a committee has worked out a set of principles—nine of them—designed to improved public health nursing in rural communities and small and large cities. This courageous attempt may cause pain to some sacred cows but even that may do good in the end.

ANON. Desirable Organization of Public Health Nursing for Family Service. Pub. Health Nurs. 38, 8:387 (Aug.), 1946.

Doing Better Now-a-days—When the returns are all in, this writer predicts it will be found that the influences of war on industrial health have been as great as, if not greater than, other public health programs. He discusses the advances, both technical and social. In World War I, there were 230 fatalities per billion pounds of explosives manufactured. In the second war

only 5 fatalities per billion pounds were reported. This is a sample of the interesting facts and ideas awaiting you in this paper.

BLOOMFIELD, J. J. Technical and Social Advances in Industrial Health. Occup. Med. 1, 5:443 (May), 1946.

Vitamins and Morale—Count the day not lost when you learn a new word. This conspectus (summary to you) retells the story of the California factory workers who lived on a diet low in colored vegetables, citrous fruits, and tomatoes. They did better in respect to milk and eggs and met the requirements for meat. Half were given a placebo, and half a vitamin supplement. Absenteeism, turnover and performance rates seem to indicate that the super-vitamined group enjoyed a slightly superior industrial morale. There is a lot more that you must interpret for yourself.

BORSOOK, H., and WIEHL, D. G. Nutritional Status of Aircraft Workers in Southern California. A Conspectus of the Survey and Its Field. Milbank Quart. 24, 3:251 (July), 1946.

Keep Up-to-Date—For non-medical health workers this excellent review of the newer analgesics, anesthetics, anti-infectives, vaccines, vitamins, and hormones should be required reading.

CUTTING, W. C. The Newer Drugs. Am. J. Nurs. 46, 8:513 (Aug.), 1946.

Know-It-Alls Needn't Bother—Are you in doubt about the latest in diphtheria, scarlet fever, tetanus, pertussis, typhoid, smallpox, influenza, and rabies immunization? If you are not letter perfect then read this excellent review for every health worker should achieve that degree of information about his craft.

EDSALL, G. Active Immunization. New England J. Med. 235, 8:256 (Aug. 22), 1946.

This Saves Babies—Combined vaccination does not decrease the prophylactic value of the diphtheria toxoid and offers a very good protection against whooping cough. After a wide-scale trial this Canadian health officer feels justified in extending the service to all infants in the Province.

FOLEY, A. R. A Three Year Experiment with Combined Diphtheria Toxoid—Pertussis Vaccine. Canad. Pub. Health J. 37, 7:259 (July), 1946.

While Research Goes On—Of the 182,000 infectious syphilitics reported last year, 52,000 were treated in 59 rapid treatment centers in 37 states. Experience gained in these centers suggests definite merit in the treatment of early syphilis with penicillin, using arsenicals and bismuth as adjuncts. There are fewer relapses when the adjuncts are included.

HELLER, J. R., JR. The Rapid Treatment Center Program. Am. J. Nurs. 46, 8:542 (Aug.), 1946.

Healthful Work—In still another new scientific journal a broad view is taken of the work of the health educator in industry. Industrial health cannot be divorced from the public health program, and industrial health involves more than putting up posters in factories. Psychologic problems in industrial life, vocational guidance, education of new workers, effective tie-up of the hygiene of home and work-place are some of the goals of industrial health.

GALDSTON, I., *et al.* Symposium on Health Education in Industry. Occup. Med. 1, 5:471 (May), 1946.

For Each His Own Job—Lest long-tenure members of the health agency staff fear that the newly appointed health educator will tread on vulnerable toes, some of the non-competitive activities of that misunderstood functionary are set forth. It's true that each health worker is a health educator betimes, but the designated

health educator is a community rather than an individual teacher. There is plenty of work for all.

LIRSON, S. S., and WILSON, A. B. Health Education in the Health Department. Pub. Health Nurs. 38, 8:421 (Aug.), 1946.

From Ticks with *Rickettsia Burneti*—An entire issue of one of our more obese scientific journals is given over to Q fever. There are 181 pages of text. As I possessed—before the magazine reached my desk—what little information I'll ever need about this new disease, I can report to you only the place in which you'll find the valuable papers, all twelve of them.

ROBBINS, F. C., *et al.* Q Fever. Am. J. Hyg. 44, 1:1 (July), 1946.

Back to Demographic Normalcy?—Chiefly responsible for our step-up in population growth during the recent war years was our increased fertility. Although we indulged in no such balderdash as did the leaders of the axis countries, it is possible that some of our war expedients may not have been without some effect on our baby boom. Family allowances for soldiers, EMIC, nursery schools, and emergency feeding programs all may have helped produce more infants. It is not easy to assess their carry-over.

TAEUBER, C. Wartime Population Changes in the United States. Milbank Quart. 24, 3:235 (July), 1946.

Old Cheese May Be Dangerous Too—Following a food poisoning outbreak caused by infected cheddar cheese, it was found that an aging period of as long as forty-three weeks would not have rendered the cheese safe for consumption, for the salmonella organism could be recovered from a sample after protracted storage. Pasteurization must be insisted upon: aging isn't enough.

TUCKER, C. B., *et al.* *Salmonella typhimurium* Food Infection from Colby Cheese. J.A.M.A. 131, 14:1119 (Aug. 3), 1946.

BOOKS RECEIVED

Listing in this column acknowledges the receipt of books and our appreciation to the senders. Space and the interests of readers will permit review of some, but not all, of the books listed.

A B C OF MEDICAL TREATMENT. By E. Noble Chamberlain. New York Oxford University Press, 1946. 206 pp. Price, $3.00.

THE AMERICAN HOSPITAL. By E. H. L. Corwin, Ph.D. New York: The Commonwealth Fund, 1946. 226 pp. Price, $1.50.

BETTER HOSPITAL CARE FOR THE AMBULANT PATIENT (Report of the Special Committee on Hospital Clinic Service). Harrisburg, Pa.: The Hospital Association of Pennsylvania, 1946. 184 pp. Price, $1.50 for 1–10 copies; $1.25 for 10 or more.

THE CHALLENGE OF POLIO. By Roland H. Berg. New York: The Dial Press, 1946. 208 pp. Price, $2.50.

ESSENTIALS OF PEDIATRICS (4th Ed.). By Philip C. Jeans, A.B., M.D., Winifred Rand, A.B., R.N., and Florence G. Blake, R.N., M.A. Philadelphia: Lippincott, 1946. 627 pp. 86 illus. Price, $3.50.

EYE HEALTH—A TEACHING HANDBOOK FOR NURSES (Publication No. 447). New York: The National Society for the Prevention of Blindness, Inc., 1946. 108 pp. Price, $.60.

FOOD CONTROL AND NUTRITION SURVEYS, MALABAR AND S. KANARA. By K. G. Sivaswamy, V. R. Nayanar, Dr. R. G. Kakade and L. N. Rao. Royapettah, Madras: Servindia Kerala Relief Centre, 1946. 225 pp. 7 illus. Price, $1.20.

GENERAL BIOLOGY (3rd Ed.). By William C. Beaver, Ph.D. St. Louis: Mosby, 1946. 820 pp. Price, $4.75.

INADEQUATE DIETS, DEATHS AND DISEASES AND A FOOD PLAN FOR MADRAS. By K. G. Sivaswamy. Royapettah, Madras: Servants of India Society, 1946. 84 pp. Price, $.60.

INDUSTRIAL TOXICOLOGY. By Alice Hamilton and Rutherford T. Johnstone. New

York: Oxford University Press, 1945. 72 pp. Price, $3.50.

INSECT MICROBIOLOGY. By Edward A. Steinhaus, Ithaca: Comstock Publishing Co., 1946. 763 pp. Price, $7.75.

INSIGHT AND PERSONALITY ADJUSTMENT. By Therese Benedek, M.D. New York: The Ronald Press, 1946. 307 pp. Price, $4.00.

JEROME CARDAN. By James Eckman. Baltimore: Johns Hopkins Press, 1946. 120 pp. Price, $2.00.

Lectures on Preventive Medicine. By Harvey Sutton. Sidney, Australia: Consolidated Press, Ltd., 1944. 658 pp.

THE LIMITATIONS OF OPTICAL IMAGE FORMATION (Annals of The New York Academy of Sciences, Vol. XLVIII, Art. 1. Pages 1–30). By Max Herzberger. New York: New York Academy of Sciences, 1946. 30 pp.

MARITAL COUNSELLING—WITH SPECIAL REFERENCE TO FRIGIDITY. By Paul Popenoe, Sc.D. Los Angeles: The American Institute of Family Relations, 1945. 19 pp. Price, $.35.

MEDICAL CARE INSURANCE—A SOCIAL INSURANCE PROGRAM FOR PERSONAL HEALTH SERVICES. (Report from the Bureau of Research and Statistics Social Security Board to the Committee on Education and Labor, U. S. Senate.) Washington: Gov. Ptg. Office, 1946. 185 pp.

MODERN DEVELOPMENT OF CHEMOTHERAPY (Monographs on the Progress of Research in Holland). By E. Havinga, H. W. Julius, H. Veldstra and K. C. Winkler. New York: Elsevier Publishing Company, Inc., 1946. 175 pp. Price, $3.50.

MUSIC IN HOSPITALS. By Willem van de Wall. New York: Russell Sage Foundation, 1946. 86 pp. Price, $1.00.

NEW WORLDS IN MEDICINE. Edited by Harold Ward. New York: Robert M. McBride & Co., 1946. 707 pp. Price, $5.00.

NON-PROJECTIVE PERSONALITY TESTS (Annals of The New York Academy of Sciences, Vol. XLVI, Art. 7. Pages 531–678). New York: New York Academy of Sciences, 1946.

NOT BY BREAD ALONE. By Vilhjalmur Stefansson. New York: Macmillan, 1946. 339 pp. Price, $3.50.

OCCUPATIONAL OUTLOOK INFORMATION. RETRAINING AND REËMPLOYMENT ADMINISTRATION, U. S. Department of Labor. Washington: Gov. Ptg. Office, 1946. 6 pp.

OUR ENEMY THE STATE. Albert Jay Nock. Caldwell, Ida.: Caxton Printers, Ltd., 1946. 209 pp. Price, $2.50.

PROCEEDINGS AND PAPERS OF THE 14TH ANNUAL CONFERENCE OF THE CALIFORNIA MOSQUITO CONTROL ASSOCIATION. Edited by Harold Farnsworth Gray. Berkeley, Calif.: California Mosquito Control Association, 1946. 115 pp. Price, $1.50.

THE PSYCHOLOGY OF ADOLESCENCE. By Karl C. Garrison. New York: Prentice-Hall, Inc., 1945. 477 pp. Price, $3.50 text ed., $4.60 trade ed.

PSYCHOTHERAPY IN GENERAL MEDICINE. By Geddes Smith. New York: Commonwealth Fund, 1946. 38 pp. Price, $.25. Free to medical schools, medical societies and public agencies.

RELIEF AND SOCIAL SECURITY. By Lewis Meriam. Washington: Brookings Institution, 1946. 912 pp. Price, $5.00.

RUMBOS DE POLITICA SANITARIA. By Carlos Enrique Paz Soldan. Lima: Publicaciones del Instituto de Medicina Social, 1946. 382 pp.

SEX, MARRIAGE AND FAMILY. By Thurman B. Rice, A.M., M.D. Philadelphia: Lippincott, 1946. 272 pp. Price, $2.50.

SHOOTING THE BOW. By Larry C. Whiffen. Milwaukee: Bruce Publishing Co., 1946. 83 pp. Price, $2.00.

SIN AND SCIENCE. By Dyson Carter. New York: Heck-Cattell Publishing Co., 1946. 216 pp. Price, $2.50.

SIXTEENTH CENSUS OF THE UNITED STATES: 1940 UNITED STATES LIFE TABLES AND ACTUARIAL TABLES, 1939–1941. By Thomas N. E. Greville. Washington: Gov. Ptg. Office, 1946. 153 pp. Price, $1.25.

TOWARD MENTAL HEALTH (Public Affairs Committee Pamphlet No. 120). New York: Public Affairs Committee, Inc., 1946. 32 pp. Price, $.10.

YOUR COMMUNITY AND ITS YOUNG PEOPLE—Their Employment and Educational Opportunities (Publication No. 316). Prepared by Interagency Committee on Youth Employment and Education. Washington: Gov. Ptg. Office, 1946. 31 pp.

The 74th Annual Meeting

THE preliminary program of the scientific sessions of the Association from Tuesday, November 12, to November 14, inclusive, and of its related organizations on Monday, November 11, published in this issue, tells only part of the story of the 74th Annual Meeting in Cleveland. There is, of course, the audience to consider. Delegates from every state, from Canada, from South of the Border, and from many countries outside the Western Hemisphere will attend. Members of the Association, invited in a recent *News Letter* to guess the registered attendance, have filed estimates ranging from 2,657 to 10,862. The closest guesser gets a prize.

For these thousands of professional public health workers coming to Cleveland for a common purpose, the Local Committee under the leadership of the Health Commissioner, Dr. Harold J. Knapp, has made careful preparation.

SCIENTIFIC TRIPS

A number of inspection trips to places and projects of interest to the various Sections have been planned. They include visits to the water purification plants and the sewage disposal plants, to the Cleveland Health Museum and to the Nela Park Lighting Laboratories. The extent of the scientific program has made it necessary to limit the aims and ambitions of the Committee on Scientific Trips, of which Mr. Howard Whipple Green is Chairman. There is simply not enough time available to do all the interesting things Mr. Green's Committee generously offered.

ENTERTAINMENT

The Entertainment Committee, Mrs. David K. Ford, Chairman, is not announcing its program in advance. Delegates will see and appreciate its efforts during the days and evenings of the Convention.

SCIENTIFIC EXHIBITS

More scientific exhibit space has been allocated this year than ever before. Twenty-five booths have been set aside for Cleveland exhibits and the assembly of the local participants is under the supervision of Dr. Bruno Gebhard. Fifty booths have been ticketed for national agencies, official and private, and their disposition has been the responsibility of a committee working under the Chairmanship of Dr. Franklin M. Foote. A partial list of scientific exhibitors follows:

American Dental Association
American Medical Association
Baruch Committee on Physical Medicine
Committee on Census Enumeration Areas of the American Statistical Association
Health Institute of the UAW-CIO
Institute of Inter-American Affairs
National Conference for Coöperation in Health Education
National Foundation for Infantile Paralysis
National Institute of Health
National Organization for Public Health Nursing
National Sanitation Foundation
National Society for the Prevention of Blindness
New Jersey State Department of Health
New York City Department of Health
New York State Department of Health
Office of the Surgeon General, Preventive Medicine Division
U. S. Public Health Service

THE TECHNICAL EXHIBIT

The *Journal* has carried for several months a Directory of Technical Exhibitors at Cleveland. It is in this issue as well at the back. Many of the exhibitors need no introduction to Asso-

ciation members. There are a few appearing for the first time at an Annual Meeting. Delegates examining the scientific program with an eye to the best expenditure of their time are reminded that the technical exhibit is full of information, too, and time should be blocked out for its careful inspection.

MOTION PICTURES

The Motion Picture Theater will be in continuous operation from Tuesday morning, November 12, beginning at 9:30 until 4:30 p.m. on Thursday. Mr. Thomas Stowell will be in charge. With the assistance of Mrs. Ethel Files and Mr. Adolph Scherer, Mr. Stowell will show more than fifty health films.

HEALTH EDUCATION AND PUBLICITY HEADQUARTERS

Conducted by the National Publicity Council for Health and Welfare Services, Mrs. Sallie Bright, Director, and Miss Katherine Emig, Assistant Director, this popular center for the examination of health education materials of all kinds and for advice upon all manner of health education problems is being developed around the central themes of the program. The results should extend the value of the papers presented before the Health Education Section.

MERIT SYSTEM UNIT

In addition to the program being sponsored on Tuesday afternoon by the Merit System Unit, a consultation booth will be maintained and, throughout the meeting, members of the A.P.H.A. Merit System Unit staff will be on hand for conferences with persons concerned with recruiting and examining personnel for public health. Objective type examinations for professional classes of positions in administrative public health, environmental sanitation and public health engineering, public health nursing, laboratory work, health education, medical social work, nutrition, and vital statistics have been developed by the Merit System Unit. Samples of examinations which have been administered in various states and statistical analyses of the results will be on display.

VOCATIONAL COUNSELING AND PLACEMENT SERVICE

Next to the Merit System Unit's consultation center will be found a similar refuge where those who need personnel and those who are seeking appointment to positions in public health may find real assistance and concrete leads. Dr. F. W. Racker, Vocational Counsellor attached to the A.P.H.A. staff through the coöperation of the U. S. Public Health Service, will be on hand to match jobs with applicants and employers with employees.

CONVENTION HEADQUARTERS

The Municipal Auditorium is Convention headquarters. The Registration Desk will be located in the Arena, and here also will be the exhibits, the Motion Picture Theater, Health Education and Publicity Headquarters, Merit System Unit and Vocational Counseling Centers, and the offices of the Association and the Local Committee. All scientific meetings will be held in the Auditorium, except the very few otherwise noted in the program.

REGISTRATION

Registration Headquarters will open at 9:30 a.m. on Monday, November 11. The registration fee established by the Executive Board is $2 for members and $3 for non-members. The usual exemptions for wives, dependent members of families, and students will maintain.

HOTELS

The *Journal* carries this month as in August and September a list of the hotels which have guaranteed rooms

for the period of the 74th Annual Meeting. Double rooms are much easier to secure than single rooms, and the hotels request that this fact be emphasized to the members. Room guarantees, except in the case of the Hotel Statler, are far from exhausted. Delegates experiencing any difficulty in securing accommodations, are urged to write or wire Mr. Ed Brennan, Cleveland Convention and Visitors' Bureau, 511 Terminal Tower, Cleveland, Ohio, who is in charge of the Housing Bureau.

PRESENTATION OF THE LASKER AWARDS FOR 1946

The newspapers throughout the country in late September publicized the fact that the American Public Health Association will offer a series of annual awards for outstanding contributions in the fields of medical research and public health administration. The comments of Dr. George Baehr, Chairman of the Association's Committee on Awards, on the need for medical research in the battle against disease were widely quoted.

These awards were offered to the Association by the Albert and Mary Lasker Foundation. The members of the Association were informed through an editorial in the June *Journal*. The Fellows were given the opportunity to make nominations for the consideration of the committee.

Three awards of $1,000 each are being offered for outstanding contributions to research related to diseases which are the most frequent causes of death and disability. Another, also for $1,000, is for an outstanding contribution in the field of public health administration. A special award of $2,500 will be made for an especially important contribution in either field.

An "Oscar" consisting of a bronze statuette of the classical Winged Victory, symbolizing a victory in the fight against disease and death, will accompany each of the cash awards.

Winners will be announced in about six weeks. The presentation of the Lasker Awards for 1946 will take place at the Banquet Session during the 74th Annual Meeting in Cleveland, November 12–14.

Dr. Baehr has pointed out that as a natural result of the steady lengthening of the human life-span through increased scientific knowledge and improved sanitation, the importance of diseases which occur most conspicuously in the middle and later years of life is increased. Examples of these are diseases of the heart and arteries, cancer, arthritis, and kidney diseases, which are all at the top of the list of the causes of death and disability in the United States.

It is in the hope of stimulating greater professional attention and public interest in these ailments that these Lasker Awards are being offered.

Members of the Lasker Awards Committee are:

Dr. George Baehr, President, New York Academy of Medicine
Dr. Thomas Francis, Professor of Epidemiology, School of Public Health, University of Michigan
Dr. Hugh R. Leavell, Rockefeller Foundation, New York City
Dr. Robert F. Loeb, Professor of Medicine, College of Physicians and Surgeons, Columbia University
Dr. Karl F. Meyer, Director, Hooper Foundation, University of California
Dr. Thomas Parran, Surgeon General, U. S. Public Health Service
Dr. Alfred N. Richards, Professor of Pharmacology, University of Pennsylvania
Dr. Ernest L. Stebbins, Professor of Public Health Administration, Johns Hopkins University
Dr. James S. Simmons, Director, School of Public Health, Harvard University

Preliminary Program of the Scientific Sessions of the 74th Annual Meeting of the American Public Health Association and Meetings of Related Organizations

Cleveland, Ohio, November 11–14, 1946

THE Annual Meeting Program Committee offers a preview of the content of scientific sessions planned in connection with the 74th Annual Meeting in Cleveland, Ohio. The professional affiliations and addresses of speakers are not given, but a complete index to participants will be published in the final program which will be distributed to all delegates at the Registration Desk, Auditorium. Registration headquarters will be opened at 9:30 A.M. on Monday, November 11.

MONDAY MEETINGS

AMERICAN PUBLIC HEALTH ASSOCIATION GOVERNING COUNCIL

Monday, *2:30 P.M. First Meeting—Pine Room, Hotel Statler*

AMERICAN SCHOOL HEALTH ASSOCIATION

Monday, *9:30 A.M. First General Session—Room A, Auditorium*

Presiding: S. B. McPHEETERS, M.D.

Improving Dental Health Through Intensive Education. DONALD GOUDEY, D.D.S.

Health Clinic Rooms in School Buildings. HELEN CARY, M.D.

Anemia in School Children—Summary of 14,000 Hemoglobin Tests in 15 States. RUTH BLAKELY.

Research Report of Child Health Needs and Interests on Which to Revise Health Instruction in the Denver Schools. ARTHUR LEWIS.

The Health Coördinator's Functions and Duties at the Secondary School Level. C. MORLEY SELLERY, M.D.

Monday, *2:30 P.M. Second General Session—Room A, Auditorium*

Presiding: S. B. McPHEETERS, M.D., and HELEN CARY, M.D.

Twelve Years of Tuberculosis Case Finding Among High School Pupils. W. E. AYLING, M.D.

Tuberculosis in the School Child. L. S. JORDAN, M.D.

Denver Area Rheumatic Fever Diagnostic Service—The 2000 Cases Studied in the First Two Years. BERNICE WEDUM, M.D.

AMERICAN SCHOOL HEALTH ASSOCIATION (Cont.)

"Plus Sphere Test" to find cases of Farsightedness. DAVID VAN DER SLICE, M.D.

Some Observations on Malnutrition in the United States. WALTER WILKINS, M.D.

Monday, *6:30 P.M. Dinner Session—Lattice Room, Hotel Statler*

Presiding: S. B. MCPHEETERS, M.D., and HELEN A. CARY, M.D.

Presentation of the William A. Howe Award to: JOHN E. BURKE, M.D., CHARLES H. KEENE, M.D., and JOHN SUNDWALL, M.D.

The Physician's Job in the School Health Program. JOHN E. BURKE, M.D.

The Responsibility of the Medical Profession for Child Development. CHARLES H. KEENE, M.D.

American School Health Association in Retrospect and Prospect. JOHN SUNDWALL, M.D.

ASSOCIATION OF MATERNAL AND CHILD HEALTH DIRECTORS

Monday, *8:30 P.M. Parlor 1, Hotel Statler*

ASSOCIATION OF RESERVE OFFICERS OF THE U. S. PUBLIC HEALTH SERVICE

Monday, *8:30 P.M. Pine Room, Hotel Statler*

CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS

Monday, *9:30 A.M. and 2:30 P.M. Club Room A, Auditorium*

CONFERENCE OF PROFESSORS OF PREVENTIVE MEDICINE

Monday, *9:30 A.M. and Luncheon Session—Lattice Room, Hotel Statler*

CONFERENCE OF STATE AND PROVINCIAL PUBLIC HEALTH LABORATORY DIRECTORS

Sunday, *9:30 A.M., 2:30 P.M., and 8:30 P.M. Lattice Room, Hotel Statler*

Monday, *9:30 A.M., and 2:30 P.M. Club Room C, Auditorium*

Monday, *8:30 P.M. Room 345, Hotel Statler*

CONFERENCE OF STATE DIRECTORS OF HEALTH EDUCATION

Monday, *9:30 A.M. and 2:30 P.M. Tavern Room, Hotel Statler*

CONFERENCE OF STATE DIRECTORS OF PUBLIC HEALTH NURSING

Monday, *9:30 A.M. and 2:30 P.M. Room 341, Hotel Statler*

CONFERENCE OF STATE SANITARY ENGINEERS

Monday, *9:30 A.M. and 2:30 P.M. Room B, Auditorium*

ENGINEERING SECTION, CONFERENCE OF STATE SANITARY ENGINEERS, AND CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS

Annual Engineers' Stag Dinner, Euclid Ball Room, Hotel Statler

Monday, *6:30 P.M.—"Bill" Orchard, Master of Ceremonies*

PUBLIC HEALTH CANCER ASSOCIATION

Monday, *9:30 A.M. Room C, Auditorium*

Presiding: HERBERT L. LOMBARD, M.D.

Inheritance and Human Cancer. MADGE THURLOW MACKLIN, M.D.

The Changing Cancer Death Rate. EVELYN A. POTTER.

The Development of a Cancer Program in Missouri. EVERETT D. SUGARBAKER, M.D.

Health Maintenance Cancer Prevention Services. MILDRED W. S. SCHRAM, PH.D.

Cancer Education. EDMUND G. ZIMMERER, M.D.

Monday, *2:30 P.M. Room C, Auditorium*

Presiding: MORTON L. LEVIN, M.D.

The Contribution of the Yale University School of Medicine to the Connecticut Cancer Program. MARY C. MACDONALD.

The Care of the Patient with Advanced Cancer. HILDA LAROCCA.

Public Health Service Activities in the Field of Cancer Control in the United States. LEONARD A. SCHEELE, M.D.

Program of the American Cancer Society: The Overall Strategic Plan. ASHLEY W. OUGHTERSON, M.D.

The Connecticut Cancer Record Registry. How It Functions. MATTHEW H. GRISWOLD, M.D.

Monday, *6:30 P.M. Dinner Session—Parlor C, Hotel Statler*

PUBLIC HEALTH EDUCATION SECTION, AMERICAN PUBLIC HEALTH ASSOCIATION

Pre-Conference Session—Hotel Statler

Monday, *2:30 P.M.*

Meetings of all Cross-Section Committees.

Committee on Post-war Planning in Public Health Education. *Chairman,* MAYHEW DERRYBERRY, PH.D. *Parlor F.*

Committee on Coördination of Public Health Education Section with All Other Sections of the A.P.H.A. *Chairman,* MURIEL BLISS, PH.D. *Parlor G.*

Committee on Utilization of Commercial Advertising for Health Education. *Chairman,* ANN W. HAYNES. *Parlor H.*

Committee on Problems in Cost Accounting. *Chairman,* LEONA EAST CULP. *Parlor K.*

Committee on Compensation of Public Health Workers. *Chairman,* JAMES G. STONE. *Parlor L.*

Committee on Public Health Movies. *Chairman,* IRA V. HISCOCK, SC.D. *Parlor M.*

Monday, *8:30 P.M. Parlor H—Hotel Statler*

An informal meeting for pre-conference planning of all Committee chairmen and members of the Section Council.

Guest: JOHN E. IVEY, PH.D.

SESSIONS FROM TUESDAY, NOVEMBER 12, TO THURSDAY, NOVEMBER 14, INCLUSIVE

TUESDAY, 8:00 A.M.

NATIONAL ADVISORY COUNCIL OF THE CLEVELAND HEALTH MUSEUM

Breakfast Session—Cleveland Health Museum, 8911 Euclid Avenue

TUESDAY, 9:30 A.M.

LABORATORY

First Session—Ball Room, Auditorium

Presiding: WALTER L. MALLMANN, PH.D., *Chairman.*

Section Business.

Committee Reports:

The Coördinating Committee on Standard Methods. *Chairman,* A. PARKER HITCHENS, M.D.

The Standard Methods Committee on Diagnostic Procedures and Reagents. *Chairman,* WILLIAM D. STOVALL, M.D.

The Section Archivist. ANNA M. SEXTON.

Laboratory Technological Service Program of the Communicable Disease Center. SEWARD E. MILLER, M.D.

Cardiolipin and Purified Lecithin as Reagents in Syphilis Serology. AD HARRIS and JOHN F. MAHONEY, M.D.

Universal Serologic Reactivity with Lipid Antigens. Basis for "False Positives." REUBEN L. KAHN, SC.D.

PANEL DISCUSSION OF STANDARD METHODS FOR ISOLATION OF THE GONOCOCCUS

Presiding: JUSTINA H. HILL, SC.D.

Panel Leader: CHARLES M. CARPENTER, M.D.

A Tri-Laboratory Analysis of Standard Methods and the Presentation of Investigations Pertaining to Them. C. LEROY EWING, THEODORE C. BUCK, JR., EMANUEL KAPLAN, SC.D., RUDOLPHA CLARK TURNER, C. A. PERRY, SC.D., ELIZABETH PETRAN, PH.D., PATRICIA HAUGH, JUSTINA H. HILL, SC.D., ELLEN NELL, and ADELAIDE MUELLER.

Procedures for the Transportation, Isolation and Identification of the Gonococcus as Employed by the Venereal Disease Research Laboratory and the New York City Department of Health. J. D. THAYER, PH.D., and LENORE R. PEIZER.

Summary and Critique of Present Transportation Methods. RUSSELL STEIN.

Transportation of Specimens for Gonococcus Culture. NELL HIRSCHBERG, PH.D., and MARION B. COLEMAN.

The Oxalate Salt of *p*-Aminodimethylaniline, An Improved Reagent for the Oxidase Test. CHARLES M. CARPENTER, M.D.

A Comparative Study of Media for the Primary Isolation of the Gonococcus. THOMAS H. WELLER, M.D.

Growth Requirements of the Gonococcus as Related to Diagnostic Isolation Procedures. CHARLES E. LANKFORD.

Discussion by Panel Members and from the floor.

TUESDAY, 9:30 A.M.

HEALTH OFFICERS

First Session—Little Theatre, Auditorium

Presiding: ROY L. CLEERE, M.D., *Chairman.*

Section Business.

ESSENTIALS OF GOOD STATE PUBLIC HEALTH ADMINISTRATION

Panel Leader: WILTON L. HALVERSON, M.D.

Participants:

GREGOIRE F. AMYOT, M.D.
CHARLES F. BLANKENSHIP, M.D.
CARL E. BUCK, DR.P.H.
H. B. COTTRELL, M.D.
VLADO GETTING, M.D.
ROGER HEERING, M.D.
HUGH ROBINS, M.D.
CECIL A. Z. SHARP, M.D.

ENGINEERING SECTION, CONFERENCE OF STATE SANITARY ENGINEERS, AND CONFERENCE OF MUNICIPAL PUBLIC HEALTH ENGINEERS

Joint Session—Club Room B, Auditorium

Presiding: ALFRED H. FLETCHER.

Report of the Committee on Municipal Public Health Engineering. *Chairman,* LEONARD M. BOARD.

The Inauguration and Operation of Sanitary-Fill Method of Waste Disposal. LEWIS DODSON.

Report of the Committee on Coördination of Public Health Engineering Activities. *Chairman,* ROY J. MORTON.

Discussion—The Place of the Sanitarian in the Field of Public Health Engineering.

Leaders will be selected by actions taken in the Conference Meetings held on Monday.

PUBLIC HEALTH EDUCATION

First Session—Room B, Auditorium

Presiding: LUCY S. MORGAN, PH.D., *Chairman.*

Section Business.

Report of the Nominating Committee.

Report of the Section Council.

A Summary of Section Activities. REBA F. HARRIS.

TUESDAY, 9:30 A.M.

PUBLIC HEALTH EDUCATION (Cont.)

The Membership Questionnaire Study. EUNICE TYLER, PH.D.

Articles for the Journal. CARL A. WILZBACH, M.D.

Suggestions for Improving the Section. J. LOUIS NEFF.

Section Objectives and Brochure for Membership. ALICE M. JOHNSON and BESS EXTON.

Reports of the Cross-Section Committees.

Group questions and discussions.

FOOD AND NUTRITION

First Session—Room A, Auditorium

Presiding: C. G. KING, PH.D.

Section Business.

NUTRITION RESEARCH

Voluntary Studies of Human Nutrition Characterized by Low Caloric Intake. ANCEL KEYS, PH.D.

Observations on Severely Restricted Food Intakes Among European Prisoners and Civilians. HERBERT POLLACK, M.D.

An Appraisal of the Effects of Long-Continued Underfeeding in Experimental Animals. CLIVE MCCAY, PH.D.

The Problem of Working Toward an Ideal Intake of Calories and Specific Nutrients. FREDERICK J. STARE, M.D.

EPIDEMIOLOGY

First Session—Room C, Auditorium

Presiding: CHARLES ARMSTRONG, M.D., *Chairman.*

Section Business.

Control of Venereal Diseases in Germany. MAJOR GENERAL M. C. STAYER and WILLIAM A. BRUMFIELD, JR., M.D.

Post-war Health in Southeastern Asia, and Its Importance. HENRY R. O'BRIEN, M.D.

Exotic Diseases Now Being Seen in Service Men. HOWARD B. SHOOKOFF, M.D., and WHEELAN D. SUTLIFF, M.D.

Experiences with Smallpox Introduced from the Orient, Puget Sound Area, 1946. WALVIN R. GIEDT, M.D.

Filariasis and Malaria. L. T. COGGESHALL, M.D.

A Review of Induction and Discharge Examinations for Tuberculosis in the Army. ESMOND R. LONG, M.D.

TUESDAY, 9:30 A.M.

MATERNAL AND CHILD HEALTH

First Session—Club Room A, Auditorium

Presiding: EDYTHE P. HERSHEY, M.D., *Chairman.*

Section Business.

The Use of Phillips' Hemoglobin Test in Rural Maternity Care. VIRGINIA HOWARD, M.D.

Alleged Mechanical Suffocation. Post-mortem Study of 200 Consecutive Cases Reported to the Office of the Chief Medical Examiner, City of New York, Borough of Queens. JACOB WERNE, M.D., and IRENE GARROW, M.D.

The Rh Factor in Maternal and Child Health. LOUIS K. DIAMOND, M.D.

An Evaluation of the Use of BCG in the Prevention of Tuberculosis in Infants and Children. MILTON I. LEVINE, M.D.

Mental Hygiene Problems in a Well Baby Clinic. PAUL V. LEMKAU, M.D., and MARCIA COOPER.

DENTAL HEALTH

First Session—Club Room C, Auditorium

Presiding: J. M. WISAN, D.D.S., *Chairman.*

Section Business.

DENTAL HEALTH PROGRAMS

The Council on Dental Health. ALLEN O. GRUEBBEL, D.D.S.

Twenty-five Years of Dental Care in North Carolina. ERNEST A. BRANCH, D.D.S.

The Dental Program of Sturgis, Michigan. FRED WERTHEIMER, D.D.S.

Simplified Basic Data for Dental Programs. JOHN W. KNUTSON, D.D.S.

A Dental Program in Industry. C. B. BRAY, D.D.S.

TUESDAY, 2:30 P.M.

FOOD AND NUTRITION AND PUBLIC HEALTH EDUCATION SECTIONS

Joint Session—Little Theatre, Auditorium

Presiding: MARIETTA EICHELBERGER, PH.D., and LUCY S. MORGAN, PH.D.

LEGISLATION IN THE INTERESTS OF BETTER NUTRITION—A DEMONSTRATION OF THE TECHNIQUES OF GROUP DYNAMICS

Summary by MAYHEW DERRYBERRY, PH.D., for the Public Health Education Section.

RUSSELL M. WILDER, M.D., for the Food and Nutrition Section.

TUESDAY, 2:30 P.M.

HEALTH OFFICERS, EPIDEMIOLOGY, AND LABORATORY SECTIONS

Joint Session—Ball Room, Auditorium

Presiding: ROY L. CLEERE, M.D., CHARLES ARMSTRONG, M.D., and WALTER L. MALLMANN, PH.D.

DIPHTHERIA

Foreign and Domestic Trends in Diphtheria. GAYLORD W. ANDERSON, M.D.

The Correlation of Laboratory and Clinical Evidence of Virulence of *C. Diphtheriae*. MARTIN FROBISHER, JR., D.SC.

Observations on the Safety and Effectiveness of Multiple Antigen Preparations. Preliminary Report by Saginaw Study Advisory Committee. V. K. VOLK, M.D.

Present Recommendations Concerning Treatment and Prophylaxis of Diphtheria. FRANKLIN H. TOP, M.D.

Booster Doses for Schick Testing in Adults. RALPH E. WHEELER, M.D., and GEOFFREY EDSALL, M.D.

LABORATORY

Second Session—Club Room C, Auditorium

(Concurrent with Joint Session of Health Officers, Epidemiology, and Laboratory Sections)

Committee Reports:

The Standard Methods Committee for Frozen Desserts and Ingredients. *Chairman,* FRIEND LEE MICKLE, SC.D.

The Standard Methods Committee for Examination of Shellfish. *Chairman,* JAMES GIBBARD.

An Epidemic of Diarrhea in a New-borne Nursery Caused by *Pseudomonas aeruginosa*. CHARLES A. HUNTER, PH.D., and PAUL R. ENSIGN, M.D.

Studies in *Streptococcus fecalis* Food Poisoning. LEON BUCHBINDER, PH.D., ABRAHAM G. OSLER and GUSTAVE I. STEFFEN, PH.D.

Microbiology of Spray-dried Whole Egg. II. Incidence and Types of Salmonella. MATHILDE SOLOWEY, PH.D., VERNON H. MCFARLANE, PH.D., EARLE H. SPAULDING, PH.D., and CECILIA CHEMERDA.

Investigations of the Swab-Rinse Technic for Examining Eating and Drinking Utensils. THEODORE C. BUCK, JR., LEON BUCHBINDER, PH.D., PERCY M. PHELPS, RAYMOND V. STONE, D.V.M., and WALTER D. TIEDEMAN, M.C.E.

Comparative Studies on the Germicidal Efficiency of Cationic and Hypochlorite Sanitizing Agents. C. K. JOHNS, PH.D.

TUESDAY, 2:30 P.M.

MERIT SYSTEM UNIT

Lattice Room, Hotel Statler

Presiding: WILLIAM P. SHEPARD, M.D.

1. *2:30–3:45*

RECRUITMENT OF PUBLIC HEALTH PERSONNEL

Problems of Recruitment in Public Health. FRANZISKA W. RACKER, M.D.

The Adaptation of Modern Advertising Methods to the Recruitment of Professional Personnel. To be announced.

Panel Discussion

Panel Leader: WILLIAM P. SHEPARD, M.D.

Participants:

JAMES LLOYD BARRON, C.E.—Environmental Sanitation.
MARJORIE T. BELLOWS—Vital Statistics.
DOROTHY DEMING, R.N.—Public Health Nursing.
EDMUND K. KLINE, DR.P.H.—Laboratory.
WILLIAM P. SHEPARD, M.D.—Public Health Administration.
CLAIR E. TURNER, DR.P.H.—Health Education.

2. *4:00–5:15*

THE MERIT SYSTEM UNIT PROGRAM

A Report on Merit System Unit Experience with the Written Examination. LILLIAN D. LONG, PH.D., and ELIZABETH K. LAZO.

The Field Consultation Service of the Merit System Unit. CHARLES B. FRASHER.

Panel Discussion

Panel Leader: GORDON W. SEGER, DR.P.H.

Participants:

RUTH O. BLAKESLEE
ROY A. DILLON
CHARLES B. FRASHER
ELIZABETH K. LAZO
LILLIAN D. LONG, PH.D.
RICHARD M. MATTOX
DAN S. MOORE
DOROTHY E. PIEZ
DONALD F. SIMPSON

PUBLIC HEALTH NURSING

First Session—Club Room B, Auditorium

Presiding: HELENE B. BUKER, R.N., *Chairman.*

Section Business.

Nursing in England. MARGARET G. ARNSTEIN, R.N.

Group discussion.

TUESDAY, 2:30 P.M.

VITAL STATISTICS

First Session—Club Room A, Auditorium

Presiding: HUGO MUENCH, M.D., *Chairman.*

Section Business.

ADMINISTRATIVE USES OF STATISTICAL DATA IN PUBLIC HEALTH PROGRAMS

Statistics in the Planning and Evaluation of Health Procedures. HUGO MUENCH, M.D.

Uses of Statistical Data in State Health Departments. ELLEN B. WHITEMAN.

Administrative Uses of Statistical Data in an Industrial Hygiene Program. W. M. GAFAFER, D.SC.

Administrative Uses of Certain Statistical Data Obtained from a Register in the Control of Tuberculosis. G. E. HARMON, M.D.

Title to be announced. O. K. SAGEN, PH.D.

ENGINEERING

First Session—Room B, Auditorium

Presiding: ALFRED H. FLETCHER, *Chairman.*

Section Business.

Report of the Committee on Water Supply. *Chairman,* CHARLES R. COX.

Experiences With Free Chlorination of Public Water Supplies. RAYMOND J. FAUST.

Discussion. WARREN A. KRAMER.

A Comparative Study of Chlorine and Bromine for Swimming Pool Disinfection. THEODORE V. VANDERVELDE and WALTER L. MALLMANN, PH.D.

Report of the Committee on Sewage Disposal. *Chairman,* LANGDON PEARSE.

SCHOOL HEALTH

First Session—Room A, Auditorium

Presiding: LEONA BAUMGARTNER, M.D., *Chairman.*

Section Business.

Report of the Committee on Pre-service and In-service Training of School Personnel. *Chairman,* RUTH E. GROUT, PH.D.

Rural School Health Services. JESSIE M. BIERMAN, M.D.

Statement on Tuberculosis Case Finding in Schools. ARTHUR ROBINS, M.D.

TUESDAY, 2:30 P.M.

INDUSTRIAL HYGIENE

First Session—Room C, Auditorium

Presiding: T. LYLE HAZLETT, M.D., *Chairman.*

The Value of Industrial Hygiene. Address of the Chairman. T. LYLE HAZLETT, M.D.

Education in Industrial Health. L. J. GOLDWATER, M.D.

Lessons Learned in the Services.

The Army. A. J. LANZA, M.D.
The Navy–Maritime Service. PHILIP DRINKER.
U. S. Public Health Service. JAMES G. TOWNSEND, M.D.

Section Business.

TUESDAY, 8:30 P.M.

FIRST GENERAL SESSION

Music Hall, Auditorium

Presiding: JOHN J. SIPPY, M.D., *President,* American Public Health Association.

Addresses of Welcome:

World Health Organization. FRANK G. BOUDREAU, M.D.

Announcement of Sedgwick Memorial Medal Award.

Reception to the President.

WEDNESDAY, 8:00 A.M.

PUBLIC HEALTH ADVISORY COMMITTEE OF THE NATIONAL SANITATION FOUNDATION

Breakfast Session—Parlor 1, Hotel Statler

WEDNESDAY, 9:30 A.M.

FIRST SPECIAL SESSION

Little Theatre, Auditorium

Presiding:

THE HEALTH DEPARTMENT AND MEDICAL CARE

The Responsibility of the Health Officer in a Medical Care Program. FRED W. JACKSON, M.D.

The Maryland Medical Care Program. DEAN ROBERTS, M.D.

WEDNESDAY, 9:30 A.M.

FIRST SPECIAL SESSION (Cont.)

Group Medical Practice in Preventive Medicine. DEAN A. CLARK, M.D.

Health Departments and Medical Care—World Trends. JOHN B. GRANT, M.D.

LABORATORY

Third Session—Ball Room, Hotel Hollenden

(Concurrent with the Fourth Session of the Laboratory Section)

Report of the Standard Methods Committee on Examination of Water and Sewage. *Chairman,* WALTER L. MALLMANN, PH.D.

The Voges-Proskauer Reaction and Differentiation of Coliform Bacilli. REESE H. VAUGHN, PH.D.

Enterococci as an Index of Fecal Pollution. LESLIE A. SANDHOLZER, PH.D., and CHARLES E. WINTER.

Source of Cocci Found in Swimming Pools. CASSANDRA RITTER.

A Study of an Additional Method of Water Analysis. ELIZABETH J. COPE, ROGER H. CHAPIN and ANDREW T. DEMPSTER.

Bacillary Dysentery in Human Volunteers. HOWARD J. SHAUGHNESSY, PH.D., ROLAND C. OLSSON, M.D., KENNETH BASS, FRANCES FRIEWER and SIDNEY O. LEVINSON, M.D.

Inactivation of Partially Purified Poliomyelitis Virus in Water by Chlorination. SERGE G. LENSEN, PH.D., MORRIS RHIAN and MAX R. STEBBINS.

LABORATORY

Fourth Session—Assembly Room, Hotel Hollenden

(Concurrent with the Third Session of the Laboratory Section)

Presiding: SARA E. BRANHAM, M.D., *Vice-Chairman.*

Studies on Murine Typhus in Puerto Rico. A. POMALES-LEBRON, PH.D.

Studies on the Epidemiology of Encephalitis. S. EDWARD SULKIN, PH.D., CHARLES L. WISSEMAN, JR., M.D., CHRISTINE ZARAFONETIS and CLEO H. TERRY.

Immunization of Children with Influenza Virus Vaccine, Centrifuged Type. REGINALD A. HIGGONS, M.D., CLARA NIGG, PH.D., GERTRUDE M. HYDE, M.D., and CHARLES H. MANN, M.D.

Antigens for the Specific Diagnosis of Echinococcosis. WHEELAN D. SUTLIFF, M.D., ANNIS E. THOMPSON, M.D., and HOWARD B. SHOOKHOFF, M.D.

Observations Upon the Antigens Present in the Typhoid Strain Bhatnagar Vi I. ETHALINDA H. BROWER.

Cultivation of Tubercle Bacilli from Pathologic Material in Du Bos's Medium. GEORGE E. FOLEY.

WEDNESDAY, 9:30 A.M.

FOOD AND NUTRITION, SCHOOL HEALTH, AND MATERNAL AND CHILD HEALTH SECTIONS AND AMERICAN SCHOOL HEALTH ASSOCIATION

Joint Session—Ball Room, Auditorium

Presiding: MARIETTA EICHELBERGER, PH.D., LEONA BAUMGARTNER, M.D., EDYTHE P. HERSHEY, M.D., and S. B. MCPHEETERS, M.D.

Signs and Symptoms of Nutritional Deficiency in School Children. NORMAN JOLLIFFE, M.D.

Discussion. WALTER WILKINS, M.D.

Health Observations Which Teachers Can Make. MILTON I. LEVINE, M.D.

Demonstration of Teacher Observation Film Strip. GEORGE M. WHEATLEY, M.D., and S. S. LIFSON.

How Teachers Can Help to Discover Behavior Problems. MORTON A. SEIDENFELD, PH.D.

INDUSTRIAL HYGIENE

Second Session—Room B, Auditorium

The National Workmen's Compensation Conference Committee. WAYNE MERRICK.

The Union Contract and Industrial Hygiene. BERNARD S. COLEMAN.

Aviation Medicine Is Industrial Hygiene. BRIG. GEN. EUGENE G. REINARTZ, U.S.A. (Ret.)

Next Steps in Industrial Hygiene Research. PAUL NEAL, M.D.

Section Business.

EPIDEMIOLOGY AND VITAL STATISTICS SECTIONS

Joint Session—Club Room B, Auditorium

Presiding: CHARLES ARMSTRONG, M.D., and HUGO MUENCH, M.D.

MORBIDITY STATISTICS

Methods of Collecting Statistics of Reportable Diseases in Denmark. JOHANNES NIELSEN.

The Advantages of and the Need for a Uniform Classification of the Causes of Illness. SELWYN D. COLLINS, PH.D.

Proposed Classification of Disease, Injury and Cause of Death Prepared by U. S. Subcommittee. EDWARD S. ROGERS, M.D.

Morbidity Statistics Through Periodic Surveys of Households. THEODORE D. WOOLSEY.

Morbidity By-Products of Canada's Book of Life. J. T. MARSHALL.

WEDNESDAY, 9:30 A.M.

ENGINEERING

Second Session—Room C, Auditorium

Field Training Programs, Communicable Disease Center. ELLIS S. TISDALE.

The Problem of Inaugurating and Administering Rural School Sanitation. L. W. JONES.

Dishwashing Practice and Effectiveness (Swab-Rinse Test) in a Large City as Revealed by a Survey of 1,000 Restaurants. HYMAN KLEINFELD and LEON BUCHBINDER, PH.D.

A Critical Study of Machine Dishwashing. WALTER L. MALLMANN, PH.D., PAUL DEKONING and LEO ZAIKOWSKI.

Group Planning for Better Community Health. R. G. NEBELUNG, DR.P.H.

PUBLIC HEALTH EDUCATION

Second Session—Room A, Auditorium

Presiding: REBA F. HARRIS, *Secretary.*

REGIONALISM IN RELATION TO PUBLIC HEALTH EDUCATION

Regionalism: An Allover View of Purpose and Plans. JOHN E. IVEY, PH.D.

Regionalism in Relation to the Health of the Public. CARL W. STROW.

Preview of Public Health Education within the Regions. Reports of Regional Committee Chairmen.

Group questions and discussions.

DENTAL HEALTH

Second Session—Club Room A, Auditorium

SYMPOSIUM ON STANDARDS OF DENTAL CARE IN PUBLIC HEALTH PROGRAMS FOR CHILDREN

Discussion Leader: To be announced.

Title to be announced. LESTER A. GERLACH, D.D.S.

Standards of Dental Service. NORMAN F. GERRIE, D.D.S.

Title to be announced. PETER J. WARREN, D.D.S.

WEDNESDAY, 2:30 P.M.

GOVERNING COUNCIL

Second Meeting—Lattice Room, Hotel Statler

HEALTH OFFICERS

Second Session—Club Room B, Auditorium

Section Business.

PROBLEMS OF PUBLIC HEALTH ADMINISTRATION

Program Audit—A Device for Reflecting Public Health Performance. JOSEPH W. MOUNTIN, M.D., and EVELYN FLOOK.

Implementation of the Report of the Subcommittee on Local Health Units. HAVEN EMERSON, M.D.

Evaluation of Local Health Work. ROSCOE P. KANDLE, M.D.

Criteria for the Allocation of Subsidy to Local Health Departments. J. A. KAHL, M.D.

Adjusting a Private Agency to an Official Program. KARL F. MEYER, M.D.

Are Public Health Workers Underpaid? WILLIAM P. SHEPARD, M.D., and REGINALD M. ATWATER, M.D.

LABORATORY

Fifth Session—Little Theatre, Auditorium

Section Business.

Report of the Standard Methods Committee on Virus and Rickettsial Diseases. *Chairman,* THOMAS FRANCIS, JR., M.D.

LABORATORY METHODS FOR VIRUS AND RICKETTSIAL DISEASES

Panel Leader: THOMAS FRANCIS, JR., M.D.

Participants:

JOHN F. ENDERS, M.D.
ALTO E. FELLER, M.D.
W. MCDOWELL HAMMON, M.D.
GEORGE K. HIRST, M.D.
HARALD N. JOHNSON, M.D.
KARL F. MEYER, M.D.
JOHN R. PAUL, M.D.
GEOFFREY W. RAKE, M.B.
JOSEPH E. SMADEL, M.D.
R. M. TAYLOR, M.D.
NORMAN H. TOPPING, M.D.

WEDNESDAY, 2:30 P.M.

PUBLIC HEALTH EDUCATION

Third Session—Hotel Statler

HEALTH NEEDS AND PROBLEMS OF THE PEOPLE WITHIN THE REGIONS

Seven Concurrent Clinics or Conferences of All Regional Groups with the Regional Committee Chairmen and Section Council Members Presiding

Committee on Public Health Education Problems in the Northeastern Region (*Parlor C*). *Presiding:* JOHN E. FARRELL, *Chairman,* and BESS EXTON, *Section Council Member.*

BETTER APPROACHES TO HEALTH EDUCATION IN THE NORTHEAST REGION

Through Community Health Councils. RUFUS S. REEVES, M.D.

Through Modern Publicity Techniques. PHILIP S. BROUGHTON.

Through Industrial Health Programs. WILLIAM A. SAWYER, M.D.

Through Medical and Hospitalization Plans. JAMES E. BRYAN.

Through an Evaluation of Health Indices. CARL W. STROW.

Discussion.

Committee on Public Health Education Problems in the Middle States Region (*Parlor E*). *Presiding:* ALICE M. HEATH, *Chairman, pro tem,* and CARL A. WILZBACH, M.D., *Section Council Member.*

Program to be announced.

Committee on Public Health Education Problems in the Southeastern Region (*Parlor C*). *Presiding:* F. M. HEMPHILL, *Chairman,* and LUCY S. MORGAN, PH.D., *Section Council Chairman.*

Program to be announced.

Committee on Public Health Education Problems in the Southwestern Region (*Parlor B*). *Presiding:* LEWIS C. ROBBINS, M.D., *Chairman,* and J. LOUIS NEFF, *Section Council Member.*

Program to be announced.

Committee on Public Health Education Problems in the Northwestern Region (*Parlor G*). *Presiding:* EDNA M. GERKEN, *Chairman,* and THOMAS G. HULL, PH.D., *Section Council Member.*

Program to be announced.

Committee on Public Health Education Problems in the Far West Region (*Parlor D*). *Presiding:* ANN W. HAYNES, *Chairman, pro tem,* and BRUNO GEBHARD, M.D., *Section Council Vice-Chairman.*

Program to be announced.

Committee on Public Health Education Problems in the Hawaiian Islands, Puerto Rico, and Latin American Republics (*Parlor F*). *Presiding:* CLARK YEAGER, DR.P.H., and ALICE M. JOHNSON.

Program to be announced.

WEDNESDAY, 2:30 P.M.

INDUSTRIAL HYGIENE AND PUBLIC HEALTH NURSING SECTIONS

Joint Session—Room A, Auditorium

Presiding: T. LYLE HAZLETT, M.D., and HELENE B. BUKER, R.N.

The Benefits and Hazards of Nuclear Energy. ANDREW H. DOWDY, M.D.

Results of an Industrial Hygiene Survey in a Metropolitan Area. ROBERT H. FLINN, M.D.

The Public Health Nurse's Interest and Contribution to the Health and Welfare of Industrial Workers. HEIDE HENRIKSEN, R.N.

The Real Function of Standing Orders. IRVING TABERSHAW, M.D.

EPIDEMIOLOGY

Second Session—Room C, Auditorium

Frequency of Pulmonary Tuberculosis with Cavitation in Medical Examiner Cases in the Borough of Manhattan. EDGAR M. MEDLAR.

Familial Factors in Histoplasmin Sensitivity. MICHAEL L. FURCOLOW and SHIRLEY H. FEREBEE.

Studies on Histoplasmosis in a Rural Community. C. W. EMMONS, BYRON J. OLSON and JOSEPH A. BELL, M.D.

Allergy in Brucellosis. ALBERTO P. LEON, M.D.

Congenital Defects in a Year of Epidemic Rubella. R. E. OBER, M.D., and ROY F. FEEMSTER, M.D.

Some Epidemiological Aspects of Appendicitis. CARL C. DAUER, M.D.

DENTAL HEALTH SECTION AND AMERICAN SCHOOL HEALTH ASSOCIATION

Joint Session—Room B, Auditorium

Presiding: J. M. WISAN, D.D.S., F. C. CADY, D.D.S., and S. B. MCPHEETERS, M.D.

Relation of Soils to Health, Bone Development, and Dental Caries. Speaker to be announced.

Current Concepts on Fluorine and Dental Health. F. J. MCCLURE, PH.D.

Growth and Development of Teeth and Jaws. B. HOLLY BROADBENT, D.D.S.

The School's Responsibility in Dental Health Programs. OLIN E. HOFFMAN, D.D.S.

Newer Developments in Dental Programs for Rural Areas. CARL L. SEBELIUS, D.D.S.

Studies on Gingivitis and Vitamin C. WALTER WILKINS, M.D.

WEDNESDAY, 2:30 P.M.

VITAL STATISTICS

Second Session—Club Room C, Auditorium

STATISTICAL PROBLEMS RELATING TO MEDICAL CARE AND HOSPITAL PROJECTS

Basic Statistical Elements in the Problem of Medical Care. LOWELL J. REED, PH.D.

The Administrative and Research Value of Routine Analyses of Hospital Records. PAUL M. DENSEN, D.SC.

Age and Sex Variations in Hospital Utilization. (An Example of Morbidity Data Available from Blue Cross Records.) J. D. COLMAN.

Statistical Basis for Measuring Hospital Needs. MAURICE J. NORBY.

MATERNAL AND CHILD HEALTH AND SCHOOL HEALTH SECTIONS

Joint Session—Ball Room, Auditorium

Presiding: EDYTHE P. HERSHEY, M.D., and LEONA BAUMGARTNER, M.D.

Review of School Health Legislation. BEN W. MILLER, PH.D.

Experience and Lessons from Emergency Maternity and Infant Care Program. NATHAN SINAI, DR.P.H.

The American Academy of Pediatrics Study of Child Health Services: Objectives, Methods and Results to Date. KATHERINE BAIN, M.D., CHARLES L. WILLIAMS, JR., M.D., and JOHN P. HUBBARD, M.D.

PANEL DISCUSSION ON THE COMMUNITY RHEUMATIC FEVER PROGRAM

The Needs. DAVID RUTSTEIN, M.D.

The Mechanism. MARJORIE T. BELLOWS.

The National Approach. A. L. VAN HORN, M.D.

The Local Approach. To be announced.

FOOD AND NUTRITION

Second Session—Club Room A, Auditorium

Section Business.

Nutrition Problems of Advancing Age. Report of the Committee on Nutritional Problems. *Chairman,* HELEN S. MITCHELL, PH.D.

Food Values of Dairy Products, Particularly as Affected by Method of Handling in Production, Distribution and Use. Report of the Committee on Milk and Dairy Products. *Chairman,* ETHEL A. MARTIN.

Report of the Committee on Foods (Except Milk). *Chairman,* HARRY W. VON LOESECKE.

WEDNESDAY, 2:30 P.M.

FOOD AND NUTRITION (Cont.)

Report of the **Committee on Standard Methods for the Microbiological Examination of Foods.** *Chairman,* H. E. GORESLINE, PH.D.

Report of the **Joint Committee on Analyzing Frozen Desserts.** *Chairman,* FREDERICK W. FABIAN, PH.D.

Report of the **Committee on Membership and Fellowship.** *Chairman,* ALICE H. SMITH.

Report of the **Secretary.** MARJORIE M. HESELTINE.

Report of the **Nominating Committee.** CARL R. FELLERS, PH.D.

WEDNESDAY, 7:00 P.M.

SECOND GENERAL SESSION

Annual Banquet—Grand Ball Room, Hotel Statler

Presiding: JOHN J. SIPPY, M.D., *President,* American Public Health Association.

Presentation of Forty Year Membership Certificates.

Announcement of New Officers, Resolutions.

Presentation of Lasker Awards for 1946.

Presentation of 1946 Elizabeth Prentiss Award in Health Education.

Dancing. Refreshments. Informal.

THURSDAY, 9:30 A.M.

MATERNAL AND CHILD HEALTH, PUBLIC HEALTH NURSING, DENTAL HEALTH, AND SCHOOL HEALTH SECTIONS

Joint Session—Ball Room, Auditorium

Presiding: EDYTHE P. HERSHEY, M.D., HELENE B. BUKER, R.N., J. M. WISAN, D.D.S., and LEONA BAUMGARTNER, M.D.

ADMINISTRATIVE ASPECTS OF CHILD HEALTH SERVICES

Elements of a **Good School Health Program.** LEONA BAUMGARTNER, M.D.

Discussion:

JOHN BRACKEN
ALBERT D. KAISER, M.D.
BOSSE B. RANDLE, R.N.
MILDRED MOUW, R.N.

Health of the **Rural Child—A Challenge.** JESSIE M. BIERMAN, M.D.

Dental **Program.** PHILIP E. BLACKERBY, JR., D.D.S.

Maternity and Child Welfare in a Large British City. JEAN M. MACINTOSH, M.D.

THURSDAY, 9:30 A.M.

LABORATORY

Sixth Session—Club Room B, Auditorium

WARTIME ARMY MEDICAL LABORATORY ACTIVITIES

The Wartime Army Medical Laboratory Organization. LT. COLONEL GUSTAVE J. DAMMIN, M.C., Res.

The Past, Present and Future of the Army Institute of Pathology. COLONEL JAMES E. ASH, M.C.

Public Health Aspects of Wartime Studies Conducted at the Army Institute of Pathology. MAJOR RUELL A. SLOAN, M.C.

Wartime Activities of the Army Veterinary Laboratories. COLONEL RAYMOND RANDALL, V.C.

The Routine Virus and Rickettsial Diagnostic Laboratory. HARRY PLOTZ, M.D.

Development and Use of the Shigella and Salmonella Typing Kits. MAJOR P. R. CARLQUIST, SN.C.

VITAL STATISTICS

Third Session—Room A, Auditorium

DEVELOPMENT OF DEMOGRAPHIC STATISTICS IN CITY HEALTH DEPARTMENTS

Development of Demographic Statistics in City Health Departments. W. THURBER FALES, D.SC.

Health and Social Statistics for the City. HALBERT L. DUNN, M.D.

Use of Census Tracts in the Analysis of City Health Problems. HOWARD W. GREEN.

Postcensal Population Data for Cities. HENRY S. SHRYOCK, JR.

Certification of Death of 1,000 Diabetic Patients. HERBERT L. LOMBARD, M.D., and ELLIOTT P. JOSLIN, M.D.

INDUSTRIAL HYGIENE

Third Session—Room B, Auditorium

Presiding: HELMUTH H. SCHRENK, PH.D., *Vice-Chairman.*

Results of a Survey of Welders. W. C. DREESSEN.

Toxicity and Toxicology of Several Sulfur Compounds. HEINRICH BRIEGER, M.D.

Present Trends in the Enactment of Industrial Hygiene Codes. WILLIAM P. YANT.

Present Trends in Government Control of Occupational Disease. KENNETH M. MORSE.

THURSDAY, 9:30 A.M.

FOOD AND NUTRITION

Third Session—Room C, Auditorium

Presiding: F. C. BLANCK, PH.D., *Vice-Chairman.*

FOOD TECHNOLOGY

Current Trends in Nutrition Research on Canned Foods. R. W. PILCHER, PH.D., and B. S. CLARK, PH.D.

Public Health and Nutritional Aspects of Frozen Foods. G. A. FITZGERALD.

Bacteriological Standards for Dehydrated Foods. H. E. GORESLINE, PH.D.

Work of the Committee on Food Composition of the Food and Nutrition Board of the National Research Council from 1943 to 1946. PAUL L. PAVCEK, PH.D.

Relation of Certain Cooking Procedures to Staphylococcus Food Poisoning. DOROTHY L. HUSSEMANN, PH.D., and F. W. TANNER, PH.D.

EPIDEMIOLOGY

Third Session—Club Room A, Auditorium

Insect Control—An Important Factor in Public Health Work. F. C. BISHOPP, PH.D.

Tularemia in Indiana, Including an Industrial Outbreak. JAMES W. JACKSON, M.D.

California's Plan for Study and Control of Mosquito-borne Diseases. LESTER BRESLOW, M.D., and ARVE H. DAHL.

Colorado Tick Fever. LLOYD FLORIO, M.D.

Field Studies Relating to Immunity in Infectious Hepatitis and Homologous Serum Jaundice. ROSS L. GAULD, DR.P.H.

The Neutralization of the Mouse-Adapted Lansing Strain of Poliomyelitis Virus by the Serum of Patients and Contacts. GORDON C. BROWN, SC.D., and THOMAS FRANCIS, JR., M.D.

PUBLIC HEALTH EDUCATION

Fourth Session—Club Room C, Auditorium

Program to be announced.

THURSDAY, 9:30 A.M.

HEALTH OFFICERS AND ENGINEERING SECTIONS

Joint Session—Little Theatre, Auditorium

Presiding: ROY L. CLEERE, M.D., and ALFRED H. FLETCHER.

HOUSING—A PUBLIC HEALTH PROBLEM

Panel Leader: C.-E. A. WINSLOW, DR.P.H.

Participants:

L. M. GRAVES, M.D.
E. R. KRUMBIEGEL, M.D.
M. ALLAN POND
CHARLES L. SENN

Medical Aspects of the Control of Infectious Jaundice. G. HOWARD GOWEN, M.D.

Sanitary Engineering Aspects of the Control of Infectious Jaundice. MAJOR JAMES B. BATY.

THURSDAY, 12:30 P.M.

NATIONAL COMMITTEE OF HEALTH COUNCIL EXECUTIVES

Luncheon Session—Mid-Day Club, Union Commerce Building, 925 Euclid Avenue, 21st Floor

GENERAL QUALIFICATIONS OF PROFESSIONAL STAFF MEMBERS OF HEALTH COUNCILS

For reservations, write to Mr. Howard W. Green, Cleveland Health Council, 1001 Huron Road, Cleveland, Ohio.

THURSDAY, 2:30 P.M.

SECOND SPECIAL SESSION

Little Theatre, Auditorium

LANDMARKS OF 1946

Panel Leader: REGINALD M. ATWATER, M.D.

HEALTH OFFICERS

Third Session—Room C, Auditorium

PROBLEMS OF AN AGING POPULATION

Setting the Stage. LOUIS I. DUBLIN, PH.D.

Sheltered Care of the Aged. JOSEPH H. KINNAMAN, M.D.

Preventive Aspects of Cancer Control. HERBERT L. LOMBARD, M.D.

Preventive Aspects of Diabetes. HUGH L. C. WILKERSON, M.D.

THURSDAY, 2:30 P.M.

LABORATORY

Seventh Session—Room A, Auditorium

(Concurrent with the Eighth Laboratory Session of the Laboratory Section)

Report of the **Committee on Standard Methods for the Examination of Milk and Milk Products and the Joint Editorial Committee for Standard Methods for the Examination of Dairy Products.** *Chairman,* ROBERT S. BREED, PH.D.

Methods for the **Determination of Filth and Extraneous Matter in Dairy Products.** J. O. CLARKE.

The Problem of **Reconstituted Milk.** GEORGE H. HAUSER, M.D., and WILLIAM H. KING.

Discussion: R. J. REMALEY.

Recent **Improvements in Laboratory Equipment for Milk Control.** A. H. ROBERTSON, PH.D.

Cheese and **Its Relation to Disease.** FREDERICK W. FABIAN, PH.D.

Discussion: WALTER D. TIEDEMAN, M.C.E.

Penicillin **in the Treatment of Infectious Bovine Mastitis.** CLAUDE S. BRYAN, PH.D., D.V.M.

Studies **on the Treatment of Mastitis with Penicillin.** L. W. SLANETZ, PH.D., and F. E. ALLEN, D.V.M.

LABORATORY

Eighth Session—Assembly Room, Hotel Hollenden

(Concurrent with the Seventh Laboratory Session of the Laboratory Section)

Presiding: SARA E. BRANHAM, M.D., *Vice-Chairman.*

Report of the **Committee on Standard Methods for the Examination of Germicides and Antibacterial Agents.** *Chairman,* STUART MUDD, M.D.

The Effect of **Antibiotics on Future Public Health Practices.** AUGUSTUS GIBSON, M.D.

Observations **in the *In Vivo* and *In Vitro* Development of Bacterial Resistance to Streptomycin.** C. W. PRICE, W. A. RANDALL, PH.D., V. L. CHANDLER and R. J. REEDY, PH.D.

Correlation **Between *In Vitro* Sensitivity of Pneumococcus, Type I, and Penicillin Protective Tests in Mice.** W. A. RANDALL, PH.D., C. W. PRICE, and HENRY WELCH, PH.D.

Mouse **Protection Tests in the Study of Pertussis Vaccine: A Comparative Series Using the Intracerebral Route for Challenge.** PEARL L. KENDRICK, SC.D., GRACE ELDERING, SC.D., M. K. DIXON, and J. MISNER.

Immunization **Against Pertussis Early in Life.** LOUIS W. SAUER, M.D., and WINSTON H. TUCKER, M.D.

The Specific **Diagnosis of Susceptibility to Prevention and Treatment of Pertussis.** STUART MUDD, M.D.

THURSDAY, 2:30 P.M.

EPIDEMIOLOGY

Fourth Session—Room B, Auditorium

Report of the Subcommittee for the Evaluation of Methods to Control Air-borne Infections. ALEXANDER D. LANGMUIR, M.D.

The Control of Cross Infections in Infants' Wards by the Use of Triethylene Glycol Vapor. CLAYTON G. LOOSLI, M.D., MARGARET H. D. SMITH, M.D., ROSS L. GAULD, DR.P.H., O. H. ROBERTSON, THEODORE T. PUCK, and EDWARDS A. PARK.

Effect of Ultraviolet Irradiation of Classrooms on Spread of Measles in Large Rural Central Schools. Preliminary Report. JAMES E. PERKINS, M.D., and ANNE M. BAHLKE, M.D.

Three Years' Experience in Use of Ultraviolet Radiation in Reduction of Upper Respiratory Infection in Naval Barracks. THOMAS L. WILLMON, Captain, U. S. Navy, and ALEXANDER HOLLAENDER.

An Outbreak of Influenza B in the Greater Boston Area. A. DANIEL RUBENSTEIN, M.D., and MAXWELL FINLAND.

An Outbreak of Q Fever at the National Institute of Health. ROBERT J. HUEBNER.

FOOD AND NUTRITION AND DENTAL HEALTH SECTIONS

Joint Session—Club Room B, Auditorium

Presiding: MARIETTA EICHELBERGER, PH.D., and J. M. WISAN, D.D.S.

THE RELATION OF NUTRITION TO DENTAL HEALTH

Oral Environment and Fluorine. GERALD J. COX, PH.D.

Clinical Observations. PAUL E. BOYLE, D.M.D.

Nutrition and Dental Caries. PHILIP C. JEANS, M.D.

PUBLIC HEALTH EDUCATION AND PUBLIC HEALTH NURSING SECTIONS

Joint Session—Ball Room, Auditorium

HEALTH EDUCATION—EVERYBODY'S BUSINESS

Panel Leaders: HELENE B. BUKER, R.N., and BRUNO GEBHARD, M.D.

Participants:

ALFRED L. BURGDORF, M.D.—Physician
LESTER A. GURLACH, D.D.S.—Dentist
CRANSTON J. WILCOX—Engineer
To be announced—Health Educator
PEARL HAMILTON, R.N.—Public Health Nurse

THURSDAY, 2:30 P.M.

ENGINEERING

Third Session—Club Room A, Auditorium

Report of the Committee on Shellfish. *Chairman,* MILTON H. BIDWELL.

Dynamic Control of Air-borne Infection. WILLIAM F. WELLS.

Schistosomiasis, As an Engineering Problem. E. J. HERRINGER.

Sewage Treatment Plants Constructed at Army Posts in the United States, 1940–1945. ISADOR W. MENDELSOHN, C.E.

SCHOOL HEALTH SECTION AND AMERICAN SCHOOL HEALTH ASSOCIATION

Joint Session—Club Room C, Auditorium

Presiding: LEONA BAUMGARTNER, M.D., and S. B. MCPHEETERS, M.D.

Nuisance Diseases. DAVID VAN DER SLICE, M.D.

Medical Examination of School Children. HUBLEY R. OWEN, M.D.

Techniques of Vision Testing. WINIFRED HATHAWAY.

California Hearing Conservation Program. JESSIE M. BIERMAN, M.D.

ASSOCIATION NEWS

SEVENTY-FOURTH ANNUAL MEETING
AMERICAN PUBLIC HEALTH ASSOCIATION
CLEVELAND, OHIO — NOVEMBER 12–14

Meetings of Related Organizations—November 11

RAILROAD FARES FROM VARIOUS POINTS TO CLEVELAND, OHIO

American Public Health Association
November 12–14, 1946

From	*One-way for Pullman Travel*	*Round Trip for Pullman Travel*	*One-way Lower Berth*	*One-way Upper Berth*
Atlanta, Ga.	$24.20	$42.70	$6.40	$4.85
Baltimore, Md.	14.14	27.10	3.50	2.65
Boston, Mass.	22.50	41.75	4.95	3.75
Buffalo, N. Y.	6.11	12.05	2.95	2.20
Chicago, Ill.	11.66	22.45	2.95	2.20
Dallas, Tex.	39.62	66.30	10.40	7.95
Denver, Colo.	45.83	73.70	11.30	8.60
Duluth, Minn.	26.70	45.05	6.40	4.85
Fort Worth, Tex.	39.62	66.30	10.40	7.95
Indianapolis, Ind.	9.41	18.35	2.95	2.20
Jacksonville, Fla.	35.86	62.55	9.25	7.05
Kansas City, Mo.	26.44	45.20	6.40	4.85
Louisville, Ky.	12.32	22.90	3.60	2.65
Los Angeles, Calif.	84.48	121.80	20.80	15.85
Memphis, Tenn.	24.86	43.80	6.95	5.30
Milwaukee, Wis.	14.47	26.70	3.60	2.85
Minneapolis, Minn.	25.09	42.65	5.80	4.40
Nashville, Tenn.	18.48	33.20	5.25	4.00
New Orleans, La.	36.25	62.80	9.25	7.05
New York, N. Y.	18.81	35.30	4.35	3.30
Omaha, Nebr.	28.09	47.15	6.40	4.85
Philadelphia, Pa.	15.84	30.15	3.50	2.65
Pittsburgh, Pa.	4.35	8.65	2.35	1.80
Portland, Ore.	82.43	121.80	20.80	15.85
Salt Lake City, Utah	60.93	96.40	14.75	11.25
San Francisco, Calif	84.48	121.80	20.80	15.85
Seattle, Wash.	82.43	121.80	20.80	15.85
St. Louis, Mo.	17.60	33.25	4.35	3.30
Washington, D. C.	14.14	27.10	3.50	2.65
Montreal, Que.	20.50	37.95	4.95	3.75
Halifax, N. S.	41.85	72.55	9.70	7.55
Ottawa, Ont.	18.39	34.20	4.95	3.75
Quebec, P. Q.	26.15	48.10	6.20	5.05
Toronto, Ont.	9.89	18.90	2.95	2.20
Vancouver, B. C.	82.43	121.80	21.20	16.10

NOTE: Add 15 per cent Government tax to all fares

RATES QUOTED BY CLEVELAND HOTELS

Seventy-Fourth Annual Meeting, November 12–14, 1946

AMERICAN PUBLIC HEALTH ASSOCIATION

ALL RATES QUOTED ARE FOR ROOMS WITH BATH ON EUROPEAN PLAN

NOTE: Double rooms are easier to secure than single

Hotel	*No. of Rooms*	*Single*	*Double*
Alcazar	300	$3.00	$5.00
Allerton	550	2.50–3.00	3.50– 5.00
Auditorium	300	2.00–3.50	4.00– 7.00
Bolton Square	284	2.50–3.00	3.50– 6.00
Carter	600	3.00–6.00	4.50– 9.00
Cleveland	1,000	3.00–7.00	4.50–12.00
Hollenden	1,000	3.00–5.00	4.50–12.00
New Amsterdam	250	2.00–3.00	3.50– 6.00
Olmsted	250	2.00–3.50	3.50– 7.00
Statler	1,000	3.00–6.00	5.00– 8.00
Wade Park Manor	400	3.50–5.00	5.50– 9.00

.....(Cut off on this line and mail to the hotel of your choice).....

HOTEL RESERVATION BLANK FOR THE CLEVELAND MEETING
AMERICAN PUBLIC HEALTH ASSOCIATION, NOVEMBER 12–14, 1946

To .....
(Name of Hotel)

Please reserve for me ..... rooms for ..... persons for the A.P.H.A. Meeting.

Single room ..... Double room .....

Maximum rate per day for room $..... Minimum rate per day for room $.....

I expect to arrive ..... If date of arrival is changed I will notify you at least 24 hours in advance.

Please acknowledge this reservation.

Name .....

Street Address .....

City..... State.....

Mail directly to the hotel of your choice

Standard Methods for Dairy Products

Summary of Recommended Changes for the Ninth Edition

THE subject matter of the Eighth Edition of *Standard Methods for Dairy Products* has been entirely rewritten by Dr. A. H. Robertson, Director of the State Food Laboratory, Albany, N. Y., and Dr. Luther A. Black, of the Sanitation Division of the U. S. Public Health Service, Cincinnati, Ohio, with the active assistance of the following referees: Mac H. McCrady (Montreal), S. R. Damon (Indianapolis), W. D. Tiedeman (Albany), C. A. Abele (Chicago), C. K. Johns (Ottawa), M. W. Yale (Green Bay, Wis.), F. W. Fabian (East Lansing), E. H. Parfitt (Chicago), A. W. Fuchs (Washington), L. H. Burgwald (Columbus). More than 40 additional members of the Committees involved in the work, have contributed to the preparation by participation in conferences or through submitted criticisms and suggestions. An effort has been made to keep the report widely representative of the best thought in the milk and dairy products field of all of the countries actively participating in the work of the American Public Health Association.

This revision is being carried out under the direct supervision of the undersigned Chairmen of the Committees participating in the preparation of this report. These committees are: The Committee on Methods for Examining Milk and Milk Products of the Laboratory Section, R. S. Breed (Geneva), *Chairman;* Joint Committee on Frozen Desserts and their Ingredients, of the Laboratory and the Food and Nutrition Sections, F. L. Mickle (Hartford), *Chairman;* Committee on Bio-assay of Foods, of the Food and Nutrition Section, H. T. Scott (Madison), *Chairman.* The Chemical Methods are included through the coöperation of the Association of Official Agricultural Chemists, represented by A. C. Hunter (since deceased).

Important recommended changes in the report may be summarized as follows:

1. Chapter 1 discussed the advantages and disadvantages of the more common quality tests for dairy products. Much of this material intended for the guidance of those who use the methods described was scattered throughout the Eighth Edition. This has been assembled in one chapter for the Ninth Edition. The subject matter deals with the selection of the most useful methods, shows how they are used, and finally suggests interpretations for quality standards as applied to acceptable milk and cream. Although quality standards now in use are given in the text it is felt that each jurisdiction involved must fix its own standards suitable for enforcement under local conditions of production and marketing. The material is presented in the following order: "Raw Milk for Pasteurization," "Pasteurized Milk," and "Raw Milk to be Consumed Raw." Under this arrangement the directions for laboratory procedures are made direct and specific.

2. The style of presentation of methods has been confined in so far as possible to the imperative. This style alone reduces the verbiage in directions taken from the Eighth Edition by nearly 25 per cent and results in a much improved coördination and sequence of thought.

3. A cross-reference system in the text, which is a modification of the Dewey library system, has been used extensively. The references appear in bold face, which makes the need for

paging somewhat unnecessary. In addition to the cross-references, a subject index at the end of the book and a Table of Contents at the beginning have been included. The cross-reference system reduces the paging by an additional 5 per cent. The inclusion of new material, however, makes the new edition larger than the old edition.

The titles for the thirteen chapters follow:

Chapter	*Title*
1.	Selection and Interpretation of Quality Tests
2.	Microbiological Methods for Milk and Cream
3.	Detection of Special Bacterial Groups or Species
4.	Microbiological Methods for Butter
5.	Microbiological Methods for Cheese
6.	Microbiological Methods for Frozen Dessert Ingredients
7.	Microbiological Methods for Frozen Desserts
8.	Sterility Tests for Dairy Equipment
9.	Extraneous Matter (Sediment) in Dairy Products
10.	Determination of Vitamins in Dairy Products
11.	Phosphatase Methods to Determine Pasteurization
12.	Chemical Methods
13.	Screening Tests

4. Because extensive studies on the Methylene-Blue Reduction Test have demonstrated the need for counteracting the effect of creaming during the incubation of samples, hourly inversion of the sample tubes to redistribute the fat and bacteria has been prescribed in the modified procedure. A special modification of the procedure for recording methylene blue reduction test is introduced. The results obtained thereby seem to correlate more closely with quality standards which have been set up for interchangeable use with other methods of determining quality.

5. The "One-Hour" Resazurin Test and the "Triple-Reading" Resazurin Test have been accepted as useful standard methods.

6. Directions for the preparation of lactose broth, Endo agar and easin-methylene-blue agar have been added to the coliform section.

7. Microbiological Methods for Cheese have been included as follows:

(1) Methods for determining the yeast and mold content (A spoilage problem) in soft type cheeses, such as cottage cheese, cream cheese, etc.

(2) Methods for the isolation and identification of pathogenic bacteria in cheese.

In the latter section, attention is given to the isolation from cheese of pathogenic streptococci of Lancefield's Group A, species of *Brucella*, *Salmonella typhosa* and other salmonellas, the pathogenic shigellas and enterotoxigenic staphylococci.

8. Methods for examining stabilizers have been added to the chapter on Microbiological Methods for Frozen Dessert Ingredients.

9. Procedures for making Sediment Tests from Milk have been changed so as to permit both the Mixed Sample Method and the Off-Bottom Sample Method. Directions are furnished for preparing standard sediment discs which are reproducible. Methods for checking the efficiency of the various sediment testing devices on the market are also given.

10. Because of the close relationship between Filth, Extraneous Matter, and Sediment in Dairy Products, methods used by the U. S. Food and Drug Administration have been included in Chapter 9 for the determination and identification of filth in various dairy products including cream, butter, cheese, dried milk, evaporated milk and condensed milk.

11. Methods for the determination of thiamin hydrochloride, riboflavin and niacin have been added to Chapter 10 on Determination of Vitamins in Dairy Products.

12. Methods for the determination of

phosphatase in milk have been extended to include methods for its determination in cream, chocolate flavored milk, butter, cheese, and ice cream.

13. Screening tests have been segregated in Chapter 13. Although screening tests have been recognized but tacitly heretofore, they are now given recognition as rapid sorting procedures. The use of these methods permits the examination of a much larger number of samples than could otherwise be examined in the same length of time. Obviously, most examinations of finished products are necessarily of a survey character from the standpoint of a regulatory agency. As milk sheds enlarge, the need for screening tests becomes greater. Screening tests should not be used when laboratory results may be needed for court testimony. The use of screening test saves time which can be used advantageously to correct unsatisfactory conditions.

Among recognized screening test procedures are the following:

a. Practical field sterilization procedures for agitators and sampling tubes.

b. Sampling of the milk after it is dumped into the weigh vat.

c. Loop measurements for 0.01 ml. portions for the direct microscopic method.

d. Burri Slant Method as a semi-portable modification of the agar plate method to determine relative degrees of contamination.

e. A single tube test for coliform bacteria where successive samples are removed at frequent intervals during the pasteurization process.

f. Tests to check the presence of bacteria that survive pasteurization.

g. Tests to detect the presence of thermophilic bacteria.

h. Volumetric measurement of test portions of frozen desserts.

i. New York City field phosphatase test to determine whether milk has been pasteurized.

j. Modified Babcock methods (Minnesota Modification and Pennsylvania Modification) for determination of the milk fat in frozen desserts.

14. Miscellaneous Items:

a. Transfer pipette specifications are shown in diagrams of the pipettes and are not included as part of the description of the pipette in the text.

b. An outline of specific procedures with a table of illustrations is provided to guide in "Selecting and Counting Colonies on Agar Plates."

c. When the number of fields to be counted, using the direct microscopic method, is constant, a working factor should be substituted for the microscopic factor. The working factor is obtained by dividing the microscopic factor by the number of fields counted. The use of the working factor simplifies the calculations when determining the number of clumps or bacteria per ml.

d. The application of the coliform test to raw milk, other than Certified Raw Milk, is not recommended or approved. The coliform test as applied to freshly bottled pasteurized milk is a delicate test when used to detect recontamination from equipment subsequent to pasteurization.

Joint Editorial Committee
A. PARKER HITCHENS
F. LEE MICKLE
H. T. SCOTT
A. C. HUNTER
R. S. BREED, *Chairman*

A.P.H.A. membership application blank on page XXXIV.

APPLICANTS FOR FELLOWSHIP

In accordance with the By-Laws of the Association, the names of applicants for Fellowship are officially published herewith. They have requested affiliation with the Sections indicated. Action by the various Section Councils, the Committee on Eligibility, and the Governing Council will take place during the Cleveland Annual Meeting.

Health Officers Section

Clement F. Batelli, M.D., Dr.P.H., Director, Bureau of Tuberculosis, New Haven Health Department, New Haven, Conn.

Philip A. Bearg, M.D., Dr.P.H., Health Officer, San Luis Obispo, Calif.

Stanley R. Benner, M.D., Health Officer, Yakima City-County Health Dept., Yakima, Wash.

David E. Bigwood, Jr., M.D., M.P.H., Health Officer, Utica, N. Y.

T. Elam Cato, M.D., M.P.H., Dade County Health Officer, Miami, Fla.

George A. Dame, M.D., Director, Bureau of Local Health Service, State Board of Health, Jacksonville, Fla.

Abe J. Davis, M.D., Commissioner of Health, Richmond County Health Dept., Augusta, Ga.

George B. Davis, M.D., M.P.H., Health Officer, Milford, Conn.

John C. Dement, M.D., M.P.H., Assistant Chief, Division of Local Health Services, State Department of Public Health, San Francisco, Calif.

O. Merton Derryberry, M.D., M.P.H., Chief, Employee Health Services Division, Tennessee Valley Authority, Chattanooga, Tenn.

James A. Dolce, M.D., M.S.P.H., Chief, Division of Local Health Administration, State Department of Health, Hartford, Conn.

James R. Enright, M.D., Director, Bureau of Communicable Diseases, Territorial Board of Health, Honolulu, Hawaii

Leroy L. Fatherree, M.D., M.P.H., Superintendent of Health, Lincoln, Nebr.

Antonio Fernos-Isern, M.D., Commissioner of Health, Puerto Rican Department of Health, San Juan, P. R.

Allan Filek, M.D., M.S.P.H., Director of Local Health Administration, State Board of Health, Madison, Wis.

Harald M. Graning, M.D., M.P.H., Associate Director, Division of Local Health Organizations, State Department of Public Health, Atlanta, Ga.

John J. Hanlon, M.D., M.P.H., Resident Lecturer in Public Health Practice, University of Michigan School of Public Health, Ann Arbor, Mich.

Fredrick W. Jackson, M.D., D.P.H., Deputy Minister, Manitoba Department of Health and Public Welfare, Winnipeg, Man., Canada

George James, M.D., M.P.H., District State Health Officer, State Health Department, Kingston, N. Y.

John A. Kahl, M.D., M.P.H., Assistant State Director, State Health Department, Seattle, Wash.

Edmond G. Klamke, M.D., M.P.H., Director, Alexandria-Rapides Health Department, Alexandria, La.

Leslie W. Knott, M.D., M.P.H., Medical Administrative Assistant, State Department of Public Health, Springfield, Ill.

Sanford P. Lehman, M.D., M.S.P.H., District Health Officer, Clark County-City Health Department, Vancouver, Wash.

Walter C. Levy, M.D., M.P.H., District Health Officer, State Department of Health, Jamestown, N. Y.

Angel M. Marchand, M.D., M.P.H., Assistant Commissioner of Health, Puerto Rican Department of Health, Santurce, P. R.

Daniel P. McMahon, M.D., M.P.H., District Health Officer, State Department of Health, Hornell, N. Y.

Walter H. Miles, M.D., Director, City Health Department, Oklahoma City, Okla.

C. Martin Mills, M.D., M.S.P.H., Commissioner of Health, Richmond, Calif.

Harcourt A. Morgan, Jr., M.D., M.P.H., Director, Bedford-Marshall District Health Department, Shelbyville, Tenn.

Allan R. Morton, M.D., M.P.H., City Commissioner of Public Health and Welfare, Halifax, N. S., Canada

Norman B. Nelson, M.D., Dr.P.H., Chairman, Department of Public Health, University of California, Los Angeles, Calif.

Blair Points, M.D., Director, Health Unit 5, State Department of Health, Madill, Okla.

Jack B. Porterfield, M.D., M.P.H., Director of Public Health, Richmond, Va.

Leland E. Powers, M.D., M.S.P.H., Director of Health Service and Executive Officer, Department of Preventive Medicine, University of Washington, Seattle, Wash.

William H. Riheldaffer, M.D., Chief of Public Health and Safety, Southeastern Division, Tennessee Valley Authority, Chattanooga, Tenn.

Wilson T. Sowder, M.D., M.P.H., State Health Officer, Jacksonville, Fla.

Milton Terris, M.D., M.P.H., Medical Associate, Subcommittee on Medical Care, American Public Health Association, Bethesda, Md.

Fannie I. Tomson, M.D., M.S.P.H., Acting Health Officer, City Department of Health, New York, N. Y.

Edward L. Van Aelstyn, M.D., C.P.H., Health Officer, Cowlitz-Wahkiakum Department of Health, Kelso, Wash.

Gertrud Weiss, M.D., M.S.P.H., Assistant District Health Officer, City Department of Health, New York, N. Y.

Laboratory Section

C. F. Bain, M.S.P.H., Senior Bacteriologist, State Department of Public Health, Boise, Ida.

John H. Brewer, Ph.D., Director of Biological Research, Hynson, Westcott & Dunning, Baltimore, Md.

Leon Buchbinder, Ph.D., Senior Bacteriologist, City Department of Health, New York, N. Y.

John J. Clemmer, M.D., Director, Bender Hygienic Laboratory, Albany, N. Y.

Sophia M. Cohen, B.S., Senior Bacteriologist, Division of Laboratories and Research, State Department of Health, Albany, N. Y.

Charles A. Dille, M.D., Director, Clinical Laboratory and Pathologist, Blood Bank, Good Samaritan Hospital, Dayton, Ohio

John H. Dingle, M.D., Sc.D., Professor of Preventive Medicine, Western Reserve University, Cleveland, Ohio

Charles A. Doan, M.D., Director of University Hospital and Medical Research, Ohio State University, Columbus, Ohio

Bernice E. Eddy, Ph.D., Bacteriologist, National Institute of Health, Bethesda, Md.

Armand Frappier, M.D., Director, School of Hygiene, University of Montreal, Montreal, Que., Canada

Roy Fraser, A.M., Professor of Biology and Bacteriology and Head of Department, Mount Allison University, Sackville, N. B., Canada

R. B. H. Gradwohl, M.D., Director, Gradwohl Laboratories, St. Louis, Mo.

Justina H. Hill, D.Sc., Assistant Professor of Medicine, Johns Hopkins University, Baltimore, Md.

Marshall W. Jennison, Ph.D., Professor of Bacteriology, Department of Plant Sciences, Syracuse University, Syracuse, N. Y.

Albert P. Krueger, M.D., Professor of Bacteriology and Lecturer in Medicine, University of California, Berkeley, Calif.

Robert A. H. Mackeen, M.D., Director of Laboratories, Provincial Department of Health, St. John, N. B., Canada

Charles A. Mitchell, D.V.M., Chief, Pathological Division, Canadian Government, Hull, Que., Canada

Erwin Neter, M.D., Bacteriologist, Children's Hospital, Buffalo, N. Y.

Allan C. Pankin, M.D., D.P.H., Emeritus Professor of Bacteriology and Hygiene, University of Alberta, Edmonton, Alta., Canada

Arthur M. Slee, Director, Biological Division, National Drug Co., Philadelphia, Pa.

E. Lee Treece, Ph.D., Associate Professor of Bacteriology, University of Kansas, Lawrence, Kans.

Philip L. Varney, Ph.D., Assistant Professor of Bacteriology and Immunology, Washington University Medical School, St. Louis, Mo.

William G. Workman, M.D., Senior Surgeon, U. S. Public Health Service, Bethesda, Md.

Vital Statistics Section

George F. Badger, M.D., M.P.H., Associate Professor of Biostatistics, Department of Preventive Medicine, Western Reserve University, Cleveland, Ohio

H. M. C. Luykx, M.S., Assistant Professor of Preventive Medicine, New York University, College of Medicine, New York, N. Y.

O. K. Sagen, Ph.D., Chief, Division of Vital Statistics and Records, State Department of Public Health, Springfield, Ill.

Jane Worcester, A.B., Associate in Vital Statistics, Harvard School of Public Health, Boston, Mass.

Engineering Section

Harold S. Adams, B.Sc., Chief, Bureau of Environmental Hygiene, Division of Public Health, Minneapolis, Minn.

Cecil K. Calvert, B.S., Superintendent of Purification, Indianapolis Water Co., Indianapolis, Ind.

Robert P. Cherry, B.S., Sanitary Engineer, City Health Department, Wichita, Kans.

Robert N. Clark, M.S., C.E., Chief Public Health Engineer, Tennessee Valley Authority, Chattanooga, Tenn.

Maurice H. Coblentz, A.B., Sanitarian (R), U. S. Public Health Service, San Francisco, Calif.

Andrew T. Dempster, Jr., M.S., Associate Sanitary Engineer, Department of Health, Detroit, Mich.

Herbert J. Dunsmore, B.S., Director, Division of Sanitation, Calhoun County Health Department, Battle Creek, Mich.

Francis B. Elder, M.S.P.H., Engineering Associate, American Public Health Association, New York, N. Y.

Curtiss M. Everts, Jr., M.S., Director, Division of Sanitary Engineering, State Board of Health, Portland, Ore.

Edmund C. Garthe, C.E., Sanitary Engineer, U. S. Public Health Service, Chicago, Ill.

Nelson Hall, Supervisor, Division of Sanitation, Department of Public Health, Saginaw, Mich.

E. J. Herringer, B.S., Sanitary Engineer, U. S. Public Health Service, Richmond, Va.

Morton S. Hilbert, B.S.C.E., M.P.H., Director, Bureau of Engineering, Wayne County Health Department, Eloise, Mich.

Clyde C. Kennedy, M.S., Consulting Sanitary Engineer, San Francisco, Calif.

Samuel P. Kingston, M.S.C.E., Public Health Engineer, Health Department, Rochester, Minn.

Gordon E. McCallum, C.E., Sanitary Engineer, U. S. Public Health Service, New Orleans, La.

Richard M. McLaughlin, Director, Division of Sanitation, Westchester County Department of Health, White Plains, N. Y.

John B. Miller, B.S.E.E., Sanitary Engineer and Assistant Director, Bureau of Sanitary Engineering, State Board of Health, Jacksonville, Fla.

M. Allen Pond, M.P.H., Assistant Professor of Public Health and University Sanitary Inspector, Yale University, New Haven, Conn.

Edward A. Reinke, B.S.C.E., Senior Sanitary Engineer, State Department of Public Health, Berkeley, Calif.

Frank Tetzlaff, C.E., Sanitary Engineer, U. S. Public Health Service, Atlanta, Ga.

Hugh A. Wyckoff, M.S., Head, Department of Biology and Public Health Engineering, Georgia School of Technology, Atlanta, Ga.

Industrial Hygiene Section

Paul J. Bamberger, M.D., Assistant to Medical Director, Bethlehem Steel Co., Bethlehem, Pa.

Clyde M. Berry, Ph.D., Industrial Hygiene Engineer, Division of Industrial Hygiene, U. S. Public Health Service, Bethesda, Md.

H. Irving Dunn, M.D., Industrial Medical Officer, Headquarters Service Command, U. S. Army (formerly Director of Industrial Health, Merck & Co., Inc.), Elizabeth, N. J.

Jean S. Felton, M.D., Principal Physician, Monsanto Chemical Co., Knoxville, Tenn.

Robert M. Graham, M.D., Director, Department of Sanitation and Surgery, The Pullman Co., Chicago, Ill.

Franklin J. Halpin, M.D., Medical Director, Bureau of Employees' Compensation, Federal Security Agency, New York, N. Y.

Harold R. Hennessy, M.D., C.P.H., Assistant Secretary, Council on Industrial Health, American Medical Association, Chicago, Ill.

Kingsley Kay, Ph.D., Chief, Industrial Health Laboratories, Department of National Health, Ottawa, Ont., Canada

Thomas W. Nale, M.D., C.P.H., Assistant Manager, Toxicology Department, Union Carbide & Carbon Corp., New York, N. Y.

Everett W. Probst, M.D., Plant Physician, E. I. Dupont de Nemours & Co., Arlington, N. J.

August T. Rossano, Jr., M.S., Industrial Hygiene Consultant, U. S. Public Health Service, San Francisco, Calif.

Harry E. Seifert, C.E., Chief, Engineering Unit, Division of Industrial Hygiene, U. S. Public Health Service, Bethesda, Md.

Frederick H. Shillito, M.D., Medical Director, Pan American Airways, Inc., New York, N. Y.

Emerson Venable, B.S., Research Chemist, Mine Safety Appliances Co., Pittsburgh, Pa.

Felix E. Wormser, E.M., Secretary-Treasurer, Lead Industries Association, New York, N. Y.

Food and Nutrition Section

Richmond K. Anderson, M.D., Ph.D., Officer in Charge of Field Studies in Nutrition, U. S. Public Health Service, Washington, D. C.

M. Thomas Bartram, Ph.D., Bacteriologist, U. S. Food and Drug Administration, Washington, D. C.

Otto A. Bessey, Ph.D., Chief, Division of Nutrition and Physiology and Acting Director, Public Health Research Institute of City of New York, N. Y.

French Boyd, B.S., Chief Nutritionist, Nutrition Section, U. S. Public Health Service, Washington, D. C.

George R. Cowgill, Ph.D., Professor of Nutrition, Yale University, New Haven, Conn.

Marie E. Dohm, M.A., Director, Nutrition Service, Cleveland Health Council, Cleveland, Ohio

William B. Esselen, Jr., Ph.D., Assistant Research Professor, Food Technology, Massachusetts State College, Amherst, Mass.

Wendell H. Griffith, Ph.D., Professor of Biochemistry, St. Louis University School of Medicine, St. Louis, Mo.

Victor E. Levine, Ph.D., M.D., Lt. Col., Medical Department, U. S. Army (formerly Professor and Head, Department of Bio-

logical Chemistry and Nutrition, Creighton University), Woodside, N. Y.

Mary Reeves, M.P.H., Nutrition Consultant, State Board of Health, Jefferson City, Mo.

Harold R. Sandstead, M.D., Chief, Nutrition Section, States Relations Division, U. S. Public Health Service, Washington, D. C.

Christian P. Segard, M.D., Medical Director, Wisconsin Alumni Research Foundation, New York, N. Y.

Glenn G. Slocum, Ph.D., Acting Chief, Division of Microbiology, U. S. Food and Drug Administration, Washington, D. C.

B. Alene Theisner, M.S., Executive Secretary and Director, Dairy Council of Detroit, Detroit, Mich.

A. LeRoy Voris, Ph.D., Executive Secretary, Food and Nutrition Board, National Research Council, Washington, D. C.

Eleanor M. Wilkinson, M.S., Consultant in Nutrition, Children's Bureau, Washington, D. C.

Maternal and Child Health Section

Hilda H. Kroeger, M.D., M.S., Maternal and Child Health Director, State Department of Health, Phoenix, Ariz.

Helen M. Wallace, M.D., M.P.H., Director, EMIC, Bureau of Child Hygiene, City Department of Health, New York, N. Y.

Elizabeth C. Wells, M.D., Child Hygiene Physician, State Department of Health, Hartford, Conn.

Public Health Education Section

Josephine J. Albrecht, A.B., Executive Secretary, Health Division, Community Welfare Council, Omaha, Nebr.

Berl ben Meyr, Public Health Educator, City Health Department, Los Angeles, Calif.

Oliver E. Byrd, Ed.D., Associate Professor of Hygiene and Director, Division of Health Education, Stanford University School of Health, Stanford University, Calif.

Bertha H. Campbell, Educational Director, State Board of Health, Topeka, Kans.

Lewis Dodson, M.S.P.H., Director of Public Health Practices, National Sanitation Foundation, University of Michigan, Ann Arbor, Mich.

Marjorie B. Eastabrooks, M.Sc., Health Education Consultant, State Department of Health, Olympia, Wash.

Everett H. Ellinwood, M.D., M.P.H., Director of North Carolina School Health Coordinating Service, Raleigh, N. C.

Louisa J. Eskridge, C.P.H., Health Education Consultant, U. S. Public Health Service, Lansing, Mich.

Irving Gerring, M.S.P.H., Sanitarian (R), U. S. Public Health Service, Washington, D. C.

Alice M. Heath, C.P.H., Health Education Representative, State Department of Public Health, Springfield, Ill.

Edna M. Kech, B.A., Chief, Division of Public Health Education, State Department of Health, Harrisburg, Pa.

Alfred E. Kessler, M.S.P.H., Executive Secretary, Denver Tuberculosis Society, Denver, Colo.

Granville W. Larimore, M.D., M.P.H., Educational Director, American Cancer Society, New York, N. Y.

A. Helen Martikainen, M.P.H., Health Education Consultant, U. S. Public Health Service, Richmond, Va.

Jennelle V. Moorhead, B.A., Field Secretary, University of Oregon Medical School, Portland, Ore.

Edwin S. Powell, Public Health Educator, State Board of Health, Columbia, S. C.

Evelyn Rahm, M.S.P.H., Health Education Consultant, U. S. Public Health Service, Washington, D. C.

Austin E. Smith, M.D., C.M., Secretary, Council on Pharmacy and Chemistry, American Medical Association, Chicago, Ill.

Roscoe R. Spencer, M.D., Chief, National Cancer Institute, Bethesda, Md.

Clark H. Yeager, M.D., Dr.P.H., Chief of Medical Section, Health and Sanitation Division, Institute of Inter-American Affairs, Washington, D. C.

Public Health Nursing Section

Agnes B. Bowe, M.A., Senior Assistant Nurse Officer, U. S. Public Health Service; Acting Tuberculosis Nursing Consultant, State Health Department, New Orleans, La.

Jefferson I. Brown, Director, Public Health Nursing Division, State Department of Health, Phoenix, Ariz.

Evelyn Buck, R.N., Consultant, Child Welfare and School Nursing, Department of Health, Detroit, Mich.

Lessie K. Cather, B.S., Director of Nurses, Fulton County Health Department, Atlanta, Ga.

Gertrude M. Clouse, R.N., B.S., District Advisory Nurse, State Board of Health, Fond du Lac, Wis.

Margaret Denham, M.A., C.P.H., District Consultant, U. S. Public Health Service, San Francisco, Calif.

Caroline E. di Donato, R.N., A.M., Director of Public Health Nursing, Seton Hall College, New York, N. Y.

Margaret B. Dolan, B.S., Public Health Nursing Consultant, Tuberculosis Control Division, U. S. Public Health Service, Washington, D. C.

Irene M. Donovan, R.N., B.S., Director, Division of Public Health Nursing, State Department of Health, Bismarck, N. D.

Rose G. Ernsberger, B.S., Assistant Nurse Officer and State Consultant Nurse, Tuberculosis Control Division, U. S. Public Health Service, Phoenix, Ariz.

Mildred E. Garrett, R.N., B.S., Director, Division of Public Health Nursing, State Department of Health, Austin, Tex.

Jane D. Gavin, M.A., State Advisory Nurse, State Department of Health, Portland, Ore.

Martha I. Hauk, M.A., Regional and Maternity Nursing Consultant, State Department of Health, Lansing, Mich.

Milenka Herc, R.N., M.A., Mental Hygiene Consultant and Personnel Director, Visiting Nurse Association, Detroit, Mich.

Geraldine Hiller, M.A., District Supervisor, State Bureau of Health, Augusta, Me.

Theresa H. Jenniges, B.S., Senior Assistant Nurse Officer (R), U. S. Public Health Service, Portland, Ore.

Anne M. Leffingwell, M.S., Senior Assistant Nurse Officer (R), U. S. Public Health Service, Chicago, Ill.

Edna Lewis, R.N., M.A., Director, Department of Public Health Nursing, Loyola University, Chicago, Ill.

Mabelle J. Markee, M.S.P.H., Industrial Nursing Consultant, U. S. Public Health Service, Washington, D. C.

Eleanor E. Palmquist, M.A., Executive Secretary, Joint Committee on Community Nursing Service, National Organization for Public Health Nursing, New York, N. Y.

Florence L. Phenix, B.S., Special Nursing Consultant, Children's Bureau, Washington, D. C.

Margaret E. Ranck, B.S., Educational Director, Des Moines Public Health Nursing Association, Des Moines, Ia.

Ione M. Rowley, B.S., R.N., Assistant Director, Bureau of Public Health Nursing, State Board of Health, Madison, Wis.

Margaret L. Shetland, M.A., Regional Public Health Nursing Consultant, State Department of Health, Lansing, Mich.

Jessie L. Stevenson, R.N., A.B., Consultant on Orthopedic Nursing, National Organization for Public Health Nursing, New York, N. Y.

Bertha M. Tiber, B.S., Public Health Nursing Consultant, U. S. Indian Service, Chicago, Ill.

Maisie V. Wetzel, M.S., Director, Program of Study in Public Health Nursing, University of Oregon Medical School, Portland, Ore.

Dorothy Wilson, M.A., Educational Director, Visiting Nurse Service of New York, New York, N. Y.

Epidemiology Section

Katharine R. Boucot, M.D., Director of X-ray Surveys, Philadelphia Tuberculosis and Health Association, Philadelphia, Pa.

I. Jay Brightman, M.D., M.S.P.H., Field Director, Blood Bank Program, State Department of Health, Albany, N. Y.

William A. Davis, M.D., M.P.H., Assistant Professor of Medicine and Preventive Medicine, New York University College of Medicine, New York, N. Y.

Walvin R. Giedt, M.D., M.P.H., Head, Section of Epidemiology, State Department of Health, Seattle, Wash.

Charles R. Hess, M.D., Chest Specialist, Veterans Tuberculosis Hospital, Oteen, N. C.

Warren W. Lacey, Jr., M.D., M.P.H., District Health Officer, City Department of Health, New York, N. Y.

William D. Schrack, Jr., M.D., M.P.H., Epidemiologist, State Department of Health, Harrisburg, Pa.

Arthur J. von Werssowetz, M.D., Director, Venereal Disease Control Program, Chattanooga-Hamilton County Health Department, Chattanooga, Tenn.

School Health Section

Ruth E. Boynton, M.D., M.S., Director of Students' Health Service and Professor of Public Health, University of Minnesota, Minneapolis, Minn.

Robert W. Culbert, M.D., M.S.P.H., Chief, Child and School Health Service, City Department of Health, New York, N. Y.

Dorothy M. LaSalle, Ed.D., Visiting Professor, School of Education, University of Michigan, Ann Arbor, Mich.

Ben W. Miller, Ph.D., Executive Secretary-Treasurer, American Association for Health, Physical Education and Recreation, Washington, D. C.

Philip Ollstein, M.D., Supervising School Physician, City Department of Health and Instructor, Department of Public Health and Preventive Medicine, Cornell University Medical School, New York, N. Y.

Regine K. Stix, M.D., M.A., Chief, Secondary School Health Service, City Department of Health, New York, N. Y.

Dental Health Section

Dorothy Bryant, D.H., Associate Director, Division of Dental Health, State Bureau of Health, Augusta, Me.

A. Laurence Corbman, D.D.S., M.P.H., Director, Division of Dental Public Health, State Department of Public Health, Boston, Mass.

John T. Fulton, D.D.S., Dental Services Adviser, Children's Bureau, Washington, D. C.

Thomas L. Hagan, D.D.S., M.P.H., Regular Dental Officer, U. S. Public Health Service, New Orleans, La.

Hugo M. Kulstad, D.D.S., Private Practice, Pomona, Calif.

Lon W. Morrey, D.D.S., Director, Bureau of Public Relations, American Dental Association, Chicago, Ill.

A. Harry Ostrow, D.D.S., Director, Bureau of Dental Services, D. C. Health Department, Washington, D. C.

Carl L. Sebelius, D.D.S., M.P.H., Director of Dental Hygiene Service, State Department of Public Health, Nashville, Tenn.

Frances A. Stoll, M.A., D.H., Guest Lecturer on Health Education and Dental Health, Teachers College and School of Public Health, Columbia University, New York, N. Y.

Raymond M. Walls, D.D.S., Dental Consultant, U. S. Public Health Service, and Bethlehem School District, Bethlehem, Pa.

Unaffiliated

Albert L. Allen, M.D., Chief, Field Services, Southern Division, Tennessee Valley Authority, Wilson Dam, Ala.

Chesley Bush, M.D., Superintendent and Medical Director, Arroyo Del Valle Sanatorium, Livermore, Calif.

M. Ruth Butler, M.A., Executive Director, Philadelphia Heart Association, Philadelphia, Pa.

Dean A. Clark, M.D., Medical Director, Health Insurance Plan of Greater New York, New York, N. Y.

Leonhard F. Fuld, Ph.D., Health Director, Jersey City Medical Center, Jersey City, N. J.

Armando M. Gamboa, M.D., Surgeon, Chestnut Hill, Mass.

Jules Gilbert, M.D., D.P.H., Assistant Director, School of Hygiene, Montreal University, Montreal, Que., Canada

Robert C. Hume, M.D., M.P.H., Assistant Physician, Standard Oil Company of New Jersey, New York, N. Y.

Vincent Ippolito, M.D., Physician, City Health Department, New York, N. Y.

Austin Joyner, M.D., Medical Adviser, Lederle Laboratories, Inc., Pearl River, N. Y.

Arthur M. Master, M.D., Chairman, Education Committee, New York Heart Association and Assistant Professor of Clinical Medicine, Columbia University, New York, N. Y.

Claudio E. McNenney, M.D., Chief of Medical Division, Board of Health, Jersey City, N. J.

Franco Mortara, M.D., M.P.H., Assistant Professor of Preventive Medicine, New York University College of Medicine, New York, N. Y.

Mildred C. J. Pfeiffer, M.D., M.P.H., Internist (Industrial Medicine), Medical Division, Department of Public Safety, Chief Police Surgeon's Office, Philadelphia, Pa.

Horace D. Pritchett, V.M.D., Private Practice of Veterinary Medicine, Farmville, Va.

Guy V. Rice, Jr., M.D., Director, Division of Maternal and Child Health, State Department of Public Health, Atlanta, Ga.

Myron P. Rudolph, M.D., Dr.P.H. (Col., M.C., Office of Military Government, Germany), Louisville, Ky.

Clifford C. Shoro, Director, Division of Accounts, State Department of Health, Albany, N. Y.

J. Earl Smith, M.D., Medical Director of Communicable Disease Control Section, Health Division, St. Louis, Mo.

Allan A. Twitchell, B.A., Technical Secretary, Committee on the Hygiene of Housing, American Public Health Association, New Haven, Conn.

Arthur Williams, D.D.S., M.P.H., Public Health Dentist, D. C. Health Department, Washington, D. C.

DECEASED MEMBERS

Edward G. Huber, M.D., Dr.P.H., Waban, Mass., Elected Member 1924, Elected Fellow 1928, Epidemiology Section

Ward J. MacNeal, Ph.D., M.D., New York, N. Y., Elected Member 1920, Laboratory Section

Rosemary Phillips, R.N., St. Louis, Mo., Elected Member 1939, Public Health Nursing Section

Hyman I. Spector, M.D., St. Louis, Mo., Elected Member 1932, Unaffiliated

Cornelia van Kooy, R.N., Madison, Wis., Elected Member 1934, Public Health Nursing Section

APPLICANTS FOR MEMBERSHIP

The following individuals have applied for membership in the Association. They have requested affiliation with the sections indicated.

Health Officers Section

Charles P. Anderson, M.D., 269 Rutledge St., Gary, Ind., Director of Medical Inspection, Gary City Schools, and Member of Board of Health

James L. Booth, M.D., Washington County Health Dept., Greenville, Miss., Washington County Health Officer

Cecil E. Cook, M.D., D.P.H., 57 Murray St., Perth, West Australia, Commissioner of Public Health for Western Australia

Aubrey Y. Covington, M.D., M.P.H., P. O. Box 706, Starke, Fla., Director, Clay-Bradford-Union County Health Dept.

George R. F. Elliot, M.D., D.P.H., P. O. Box 40, Vernon, B. C., Canada, Director, North Okanagan Health Unit

Stanley S. Greenfield, M.D., 629 Empire Blvd., Brooklyn 13, N. Y., Junior Health Officer, New York City Dept. of Health

Edmund T. Hackman, M.D., 10 Post Rd., Edgewood 5, R. I., Superintendent of Health, Warwick Health Dept.

Donald G. H. MacDonald, M.D., D.P.H., 58 Main St., S., Brampton, Ontario, Canada, Director, Peel County Health Unit

Constantin Mavromates, M.D., M.P.H., 162 West 54th St., New York, N. Y., Health Officer, Greek Ministry of Public Health

J. Ancheng Miao, M.D., M.P.H., 19 Hsi-Ssu-Han, Kunming, Yunnan, China, Commissioner, Yunnan Provincial Health Administration

Harry Shapiro, M.D., 81 West Brookside Drive, Larchmont, N. Y., Health Officer in-training, New York City Dept. of Health

Clarence McK. Sharp, M.D., State Board of Health, Jacksonville, Fla., Director, Bureau of Tuberculosis Control

Charles G. Souder, M.D., D.P.H., Leesburg, Va., Health Officer, Loudoun County Health Dept.

Irving Starin, M.D., 1419 Jesup Ave., New York 52, N. Y., Junior Health Officer, New York City Dept. of Health

Laboratory Section

Herman I. Chinn, Ph.D., State Board of Health, Jacksonville, Fla., Principal Chemist

Percy H. Deal, M.S., 816 Rockledge, Topeka, Kans., Bacteriologist, State Board of Health

Edmund P. Finch, B.Sc., Hines Hospital, Bldg. 119, Clinical Lab., Hines, Ill., Asst. Chief, Clinical Laboratory

Marion Ledley, B.A., 320 Riverside Drive, New York, N. Y., Laboratory Technician

Robert E. Lind, B.S., Fitzsimons General Hospital Hqs. Co., MDETS, Denver 8, Colo., Instructor, Clinical Laboratory Medicine

Ivan Malek, M.D., Antoninska 6, Praha VII, Czechoslovakia, Asst. Professor, Dept. of Bacteriology, Charles University

Lt. Albert S. Michael, Sn.C., Fitzsimons General Hospital, MDETS, Denver 8, Colo., Instructor of Serology and Parasitology

J. Guillermo Riano, Calle 7, No. 11-88, Bogota, Colombia, S. A., Chief of Laboratory, Ministry of Hygiene

William W. Scheidegger, 1206 N. Calvert St., Baltimore 2, Md., Clinical Pathology Laboratory and X-Ray Technician, Rustless Iron & Steel Division, American Rolling Mill Co.

Peter J. Valaer, B.S., 3211 Adams Mill Rd., N.W., Washington 10, D. C., Assoc. Chemist, District of Columbia Health Dept.

Dr. Gonzalo Urgoiti, Velazquez 59, Madrid, Spain, Head, Bacteriological Research Dept., Ibys Laboratories

Vital Statistics Section

Josephine D. Cunningham, M.A., 1013 E. Rittenhouse St., Philadelphia 38, Pa., Statistician-Biometrician, U. S. Public Health Service

Olive G. Johnson, B.A., 4021 9th St., N.W., Washington 11, D. C., Public Health Analyst, U S. Public Health Service

Louise P. Lawrence, 1841 Columbia Rd., Apt. 718, Washington 9, D. C., Personnel Methods Analyst, U. S. Public Health Service

Maryland Y. Pennell, M.S., 5204 Roosevelt St., Bethesda 14, Md., Health Economist, U. S. Public Health Service

Mildred A. Snyder, B.S., 576 Callan Ave., San Leandro, Calif., Public Health Statistician, Alameda County Health Dept.

Engineering Section

Adolfo Crosby-Goicochea, Independencia 550, Trujillo, Peru, S. A., Engineer, Ministerio de Salud Publica y Asistencia Social

Clarence W. Farrier, Gunnison Homes, Inc., New Albany, Ind., Assistant to President

Walter Foote, 195 Schiller St., Elmhurst, Ill., Sanitarian, DuPage County Health Dept.

George R. Gaenslen, B.S., 323 St. Anthony Ave., San Antonio, Tex., Engineer in Industrial Hygiene, State Dept. of Health

Juan A. Granados, M.S., Calle 20, No. 85, Miramar, Habana, Cuba, Sanitary Engineer, Comision de Malaria de Cuba

Arthur L. LeClaire, 519 Lincoln St., Bakersfield, Calif., Registered Sanitarian, Kern County Health Dept.

Richard S. Mark, B.S., 31 South 2nd St., Lebanon, Pa., Sanitary Engineer (R), U. S. Public Health Service

Everett R. Mathews, M.S., 112 N. Adams Ave., Pierre, S. D., Sanitary Chemist, Div. of Sanitary Engineering, State Board of Health

John M. Rhoades, 441 S. Pineapple, Sarasota, Fla., President, Master Plumbers Association of Florida

Lyle H. Smith, M.S., 3603 Aldrich Ave., S., Minneapolis, Minn., Public Health Engineer, Div. of Sanitation, State Dept. of Health

Theodore L. Vander Velde, M.S., Dept. of Health, Lansing 4, Mich., Assistant Engineer

Industrial Hygiene Section

Isaias Balanzario-Rosas, M.D., M.P.H., Cerrada Vallarta 9, Mexico, D. F., Mexico, Chief of Medical Dept., Ministry of Public Health

Robert S. Nekomoto, M.S., Board of Health, Honolulu, Hawaii, Industrial Hygienist, Territorial Board of Health

Food and Nutrition Section

Bernice L. Anderson, M.S., 2108 N. Meridian, Indianapolis 2, Ind., Nutritionist, State Board of Health

Gaynold Carroll, B.S., 54 S. Cretin Ave., St. Paul 5, Minn., School Lunch Nutritionist, U. S. Dept. of Agriculture

Milicent L. Hathaway, Ph.D., 7105 New Hampshire Ave., Apt. 101, Takoma Park 12, Md., Nutrition Specialist, Bureau of Human Nutrition and Home Economics

Mary Rokahr, M.A., U. S. Dept. of Agric. Ext. Serv., Washington 25, D. C., Member, Committee on Hygiene of Housing, American Public Health Assn.

Florence W. Unash, M.S., 1027 Des Moines St., Des Moines 19, Iowa, Director, State Nutrition Program at Community Level, State Dept. of Health

Maternal and Child Health Section

Dolores Perez-Marchand, M.D., Avenida Hostos 22, Ponce, Puerto Rico, Medical Officer, Ponce Medical Center, Public Health Unit

Public Health Education Section

Ruth S. Allen, Box 210, Jacksonville, Fla., Acting Director, Division of Health Information, State Board of Health

Isola M. Benedetti, B.S., R.N., 1005 Michigan Ave., N.E., Washington 17, D. C., Health Educator, District of Columbia Tuberculosis Assn.

Myrtle Clinebell, Fayette County Tuberculosis Assn., Fayetteville, W. Va., Exec. Secy.

Lloyd E. Dyer, B.S., 424 East First, Wichita, Kans., Men's Program Director, Wichita, Young Men's Christian Assn.

Ruth I. Egan, B.S., 17 Jefferson St., Lynn, Mass., Public Health Education Worker, North Metropolitan District, State Dept. of Public Health

Mary D. Ellington, A.B., 605 Volunteer Bldg., USPHS, Atlanta, Ga., Information Specialist (writer), Communicable Disease Center

Madge H. Longley, B.S., R.N., P. O. Box 55, Rockville, Md., Director, Montgomery County Health Fund

Ethel S. Palmer, City Hall, Newberg, Ore., Exec. Secy., Yamhill County Public Health Assn.

V. J. Sallak, 1790 Broadway, New York 19, N. Y., Director, Personnel Service, National Tuberculosis Assn.

Marvin T. Shields, M.S., 154 McClean St., Decatur, Ga., Health Education Coördinator, State Depts. of Health and Education

Wilson M. Wing, M.D., Rockefeller Foundation, 49 W. 49th St., New York, N. Y., Special Fellowship, Medical Care, International Health Division

Eloise Young, M.S.P.H., Florence County Health Dept., Florence, S. C., Health Educator

Sally J. Ziemba, B.S., R.N., 101 North Maybell, Tulsa, Okla., Educational Director, Hillcrest Memorial Hospital

Public Health Nursing Section

Gertrude A. Cushing, B.S., U. S. Public Health Service, Tuberculosis Control Div., Bethesda, Md., Senior Assistant Nurse Officer (R)

Henrietta Hanna, R.N., Truby Apts., Independence, Kans., Public Health Nursing Consultant, State Board of Health

Ferne L. Hobson, R.N., 737 S. Wolcott St., Chicago 12, Ill., Area Supervising Nurse, Midwestern Agricultural Workers Health Assn.

Gladys A. Lee, R.N., 112 Kensington Ave., Jersey City, N. J., Part-time Instructor, Seton Hall College

Mary F. Luvisi, R.N., B.S., 114½ Cedar St., Daytona Beach, Fla., Supervisor of Nurses, Volusia County Health Unit

Mary A. Maher, R.N., B.S., 165 W. 46th St., New York, N. Y., Regional Public Health Nursing Consultant, Children's Bureau

Norma M. Miller, R.N., 700 W. Huron, Ann

Arbor, Mich., Student, School of Public Health, Univ. of Michigan

Mary Jane Minnis, Doddridge County Health Dept., West Union, W. Va., County Health Nurse

Mabel D. Stewart, R.N., 606 E. Washington Ave., Ann Arbor, Mich., Student, School of Public Health, Univ. of Michigan

Epidemiology Section

Nicolina Falci, M.D., M.P.H., rua Pamplona 444, Sao Paulo, Brazil, S. A., In charge of the Control of Schistosomiasis, State Health Dept.

Paul Kapalas, M.D., M.P.H., 162 W. 54th St., New York, N. Y., Public Health Officer, Greek Ministry of Hygiene

Emil G. Klarmann, D.Sc., 153 Franklin St., Bloomfield, N. J., Vice-President in Charge of Research, Lehn and Fink Inc.

Marcus D. Kogel, M.D., Queens General Hospital, Jamaica 2, N. Y., Medical Superintendent

Fernando Lopez-Fernandez, M.D., 27 y L. Apt. 12, Havana, Cuba, Director, National Contagious Diseases Hospital "Las Animas"

Walter R. Lowry, U.S.N. Air Station, Fort Lauderdale, Fla., Sanitarian, Laboratory and Mosquito Control Officer

John C. Sphangos, M.D., M.P.H., Rockefeller Foundation, 49 W. 49th St., New York 20, N. Y., Rockefeller Foundation Fellow

School Health Section

Ruth E. Ellis, R.N., 1273 Woods Ave., Apt. 6, East Los Angeles, Calif., School Nurse, Excelsior Union High School

Dental Health Section

Willard R. Bellinger, D.D.S., M.P.H., 1800 E. 21st St., Topeka, Kans., Assistant Director, Division of Dental Hygiene, State Board of Health

Ernest A. Branch, D.D.S., State Board of Health, Raleigh, N. C., Director, Div. of Oral Hygiene

Dorothy O'Brien, D.H., 420 6th Ave., N., Nashville 3, Tenn., Dental Hygienist, State Dept. of Public Health

Unaffiliated

John B. Cantrell, B.A., 224 W. Aeronca-A, Oklahoma City, Okla., Public Health Representative, U. S. Public Health Service

Henry S. Churchill, 19 W. 44th, New York 18, N. Y., Member, Committee on the Hygiene of Housing, American Public Health Assn.

Sgt. James A. Gilroy, Fitzsimons General Hospital, Hq. Co., MDETS, Denver 8, Colo., Instructor in Preventive Medicine, Anatomy and Physiology

Jean V. Hart, B.S., 406 Medford Center Bldg., Medford, Ore., President, Jackson County Public Health Assn.

Victor C. Rambo, Mungeli, Central Provinces, via Bilaspur, B. N. Ry., India, Superintendent, Christian Hospital, United Christian Missionary Society

Harry H. Stage, M.S., Bureau of Entomology, Washington 25, D. C., Assistant Chief in charge

The Merit System Unit of the American Public Health Association Announces an Expanded Program

Consultation Services—Through the addition to the staff of Charles B. Frasher, the Merit System Unit is now able to offer field consultation services to state and local merit system and civil service agencies and to the personnel management of health departments. Problems in personnel recruitment and selection, examination construction and administration, the application of merit system rules or civil service laws, and position classification are among the areas in which consultation is available. These new services are made possible by a grant from the National Foundation for Infantile Paralysis, Inc., and will be provided without cost to agencies requesting them.

Examinations — Objective examinations may now be obtained in the major fields of administrative health, environmental sanitation (including engineering), health education, laboratory, medical social work, and public health nursing. Specialized material is also available in a number of smaller areas, namely, clinical pathology, entomology, physiotherapy, graduate nursing, food and drug chemistry, and x-ray technique.

There are two general plans for ob-

taining the Merit System Unit examinations. In accordance with the first of these, a new and individualized examination is compiled for the agency requesting it, on the basis of that agency's own job specifications. The advantage of this procedure is that the examination reflects the special needs and requirements of the locality in which it is to be used. The agency receives three typed copies of the examination with answer key, in final form, and ready for duplication. The charge for such examinations is determined at the rate of $1 per item. Examinations for entering grades cost approximately $110; for top positions, approximately $175. When a series of examinations is prepared, however, for a number of classes of positions in any one field, the cost for individual examinations is proportionately reduced because of the possibility of using the same items in examinations for more than one class.

The second plan is especially intended for use where there are a small number of candidates for any one class of position. This plan enables the examining agency to obtain a mimeographed copy of the examination requested for each candidate. These examinations will not be tailor-made to meet the specifications of the particular agency but will have been compiled in accordance with sound testing principles by the staff subject-matter and testing consultants on the basis of standard specifications for the various classes of positions. New editions of each test will be prepared periodically as the extent of their use warrants it. This service also includes scoring and analysis of the results. The charge for these examinations will be $50 for the first 10 candidates examined for any one class, plus $3.50 for each additional person examined.

All Merit System Unit examinations are highly confidential and are made available only with the understanding that they are not to be released or published in any form.

Announcements of Examinations—The Editor of the *American Journal of Public Health* will be glad to carry announcements of public health examinations being offered by personnel agencies. Copy must be received by the fifth of any month to be carried in the next month's issue.

For Additional Information—Write directly to Lillian D. Long, Ph.D., Associate Director, Merit System Unit, American Public Health Association, 1790 Broadway, New York 19, N. Y.

REGINALD M. ATWATER, M.D.
Director
Merit System Unit

A.P.H.A. MEMBERSHIP DIRECTORY

The 1946 Membership Directory of the Association is at last a reality and every member is entitled to receive it without charge. Members who desire to receive a copy should send a post card or a letter to this effect to the Association office at 1790 Broadway, New York 19, N. Y.

EMPLOYMENT SERVICE

The following pages present information for those seeking qualified public health personnel and for those seeking positions in public health.

This is a service of the Association conducted without expense to the employer or employee.

Address all correspondence to the Employment Service, A.P.H.A., 1790 Broadway, New York 19, N. Y., unless otherwise specified.

Positions Available

(Supplemental to list in September Journal)

Wanted: **Physician, Tuberculosis Specialist,** for sanatorium in Seward, Alaska. Salary $550 per month, quarters furnished. Give all qualifications. Write C. Earl Albrecht, M.D., Commissioner of Health, Juneau, Alaska.

Wanted: **Tuberculosis Specialist,** trained in public health, for Director, Division of Tuberculosis Control. Salary $7,800. Write C. Earl Albrecht, M.D., Commissioner of Health, Territorial Department of Health, Juneau, Alaska.

Wanted: **Physician** with public health experience to act as Director, Division of Communicable Disease Control and Assistant to Commissioner of Health. Salary $650 per month. Give all qualifications and experience. Write C. Earl Albrecht, M.D., Commissioner of Health, Juneau, Alaska.

Wanted: **Director,** Division of Venereal Disease Control in Bureau of Preventable Diseases. Headquarters Jacksonville. Salary $5,400–$7,200. Start well qualified man at $6,000. Write State Health Officer, Florida State Board of Health, P. O. Box 210, Jacksonville, Florida.

Wanted: **Medical Director** for Venereal Disease Rapid Treatment Center based on hospital ship in Jacksonville. Salary $5,400–$7,200. Start well qualified man at $6,000. If bachelor, quarters aboard ship and meals at $20 per month furnished. Write State Health Officer, Florida State Board of Health, P. O. Box 210, Jacksonville, Florida.

Wanted: **Venereal Disease Control** Physician for Health Division. Training and experience in clinical, laboratory, and public health aspects of venereal disease control required. Full time. Civil Service. Salary $377–$425 per month. Write Department of Personnel, City of St. Louis, Mo., 14th and Market Streets.

Wanted: **Trained and Experienced Full-time Health Officers** for county health departments in California. Salaries range from $5,400 to $7,200. California license required for employment. Address inquiries to Dr. Ellis D. Sox, Div. Local Health Service, State Dept. Public Health, 760 Market St., San Francisco, Calif.

Wanted: Health Officer in rural area, population 41,000, staff of 10. Beginning salary $5,000 and travel allowance. Applications should be addressed to Dr. Paul S. Bauer, Alexander-Pulaski Bi-County Board of Health, Halliday Estate Bldg., Cairo, Ill.

Wanted: Assistant Health Officer. Salary $5,100. Write Health Officer, Court House, San Bernardino, Calif.

Wanted: Two full-time physicians. Immediate appointment. Conduct several small venereal disease clinics. Weekly rotating schedule. Beginning salary $4,200 plus travel expense. Appointment restricted to graduates United States and Canadian Class A Medical Schools, eligible licensure New Mexico. V.D. experience required. Men under fifty preferred. Write State Health Department, Santa Fe, New Mexico.

Wanted: Public Health Physician for city service. Can receive training on job. Beginning salary $4,080 plus $300 travel. Civil Service protection with retirement provisions. Write Dr. M. D. Ailes, Director of Health, Akron 8, Ohio.

Wanted: Assistant in Health Division. Training and experience in community health organization or public health education necessary. Salary $3,000–$3,500 depending on qualifications. Write Julia L. Groscop, Health Consultant, Council of Social Agencies, 311 South Juniper Street, Philadelphia 7, Pa.

Wanted: Bacteriologist for midwestern modern institutional laboratory. Teaching functions in nurses' training school as well as in contemplated school for laboratory technicians. Good journal library facilities. Candidates with mas-

ter's degree and some experience preferred. Maximum starting salary $3,000. Write **Box O**, Employment Service, A.P.H.A.

Wanted: Laboratory Technician in Health Department - Laboratory. Make routine bacteriological water analyses and bacteriological and chemical analyses of dairy products. College degree. At least one year in bacteriology, inorganic and organic chemistry. No experience required. Salary $150 or more depending on qualifications. Write W. Howard Brown, Director, Food and Laboratory Division, Jacksonville Health Dept., 940 Main St., Jacksonville 2, Fla.

Wanted: Young man with Ph.D. major in bacteriology or physiology needed by food concern in southwestern Pennsylvania. One or two years' experience preferred. Write **Box L**, Employment Service, A.P.H.A.

Wanted: Nutrition Workers with graduate work in dietetics or nutrition and two or more years' experience for health program extension in Georgia. Starting salary $2,880. Write Personnel Administrator, Georgia Dept. of Public Health, State Office Bldg., Atlanta 3, Ga.

The New Mexico Merit System Council announces unassembled periodic examinations for the following positions in the Department of Public Health:

Tuberculosis Control Officer	$400–$500
District Health Officer	300– 400
Director, Sanitary Engineering and Sanitation	300– 400
Supervisor of Milk Sanitation	250– 300
Supervisor of Food Sanitation	250– 300
Sanitarian	175– 215
Venereal Disease Clinician	350– 450
Venereal Disease Lay Investigator	175– 215
P. H. Nurse Midwife Consultant	250– 300
Public Health Nurse Midwife	200– 250
Public Health Nurse	175– 215
Graduate Nurse	165– 185
Associate Engineer	250– 300

Wanted: Public Health Engineer or Sanitary Engineer with public health engineering experience. Must be graduate in civil engineering with specialty in sanitary and municipal engineering from accredited college. Must have 1 year postgraduate course in public health engineering or 1 or 2 years' practical experience in public health department or U.S.P.H.S. Salary starts $350 month plus travel expense. Write Dr. I. D. Johnson, Health Officer, Marin County Health Dept., 704 Fourth St., San Rafael, Calif.

Wanted: Health Educator with ability to work constructively with citizen groups in southern city with high percentage industrial workers and Negroes. Salary $200 per month plus travel expenses. Write R. W. Garnett, M.D., Director of Public Health, Danville, Va.

Wanted: Public Health Educators with Master's degree from recognized school of public health, preferably experienced in community health councils. Positions available on both state and local levels. Write Dr. Arthur L. Ringle, State Director of Health, 1412 Smith Tower, Seattle 4, Wash.

Wanted: Health education worker for active community program sought by Tuberculosis Association in large western city. Attractive position open in agency closely related to official groups. Write **Box H**, Employment Service, A.P.H.A.

Wanted: Industrial Hygiene Engineer. Minimum of three years in public health engineering including two years in industrial hygiene engineering required. Beginning salary $337 with maximum of $417 in five years. Temporary appointment pending Civil Service examination. Also, industrial hygiene technician to assist in laboratory or field studies under supervision of the engineer or chemist. College degree, courses in chemistry or engineering and/or experience in industrial hygiene field work required. Beginning salary $233 with $288 maximum. Write A. V. Nasatir, M.D., Director, Division of Industrial Hygiene, Dept. of Health, 116 Temple St., Los Angeles 12, California.

Alaska Territorial Department of Health wants qualified sanitary engineers in the grades or Director of Division of Sanitation and Engineering and District Sanitary Engineer in Territorial Health Department. Must have bachelor's degree or higher in sanitary or public health engineering from college or university of recognized standing and eligibility for registration as professional engineer in Territory. Director must have 4 years' full-time employment in well organized agency in some phase of sanitary or public health engineering, at least 1 year of which shall have been in administrative capacity; district sanitary engineer must have at least 2 years' full-time employment in well organized agency in some phase of sanitary or public health engineering. Apply Alaska Territorial Dept. of Health, Box 1931, Juneau, Alaska.

Wanted: Sanitarian for Department of Health in New England residential suburb, 40,000 population. Preference given

applicants with **specialized public health** training or satisfactory experience in sanitation and public health work. Starting salary $2,200–$2,900 per year. **Box W,** Employment Service, A.P.H.A.

Wanted: **Public Health Nurse** or one wanting to learn public health nursing while at work under supervision. Salary $160 per month. Write R. W. Garnett, M.D., Director of Public Health, Danville, Va.

Wanted: **Public Health Nurses.** Metropolitan area of Washington. Salary $2,550 plus gasoline and oil. Write Mrs. E. Earle, Chief, Bureau of Nursing, Arlington County Health Department, 1800 North Edison Street, Arlington, Va.

Wanted: **Two Public Health Nurses** for generalized nursing program October 1, 1946. Salary $200 per month for work week of 37½ hours. Car maintenance at six cents per mile. Write Richard Sears, M.D., Director, Muskegon City-County Health Department, Court House, Muskegon, Mich.

Wanted: **Qualified public health nurse** with tuberculosis experience needed by progressive voluntary agency with active community program. Write **Box C,** Employment Service, A.P.H.A.

Wanted: **Public Health Nurses** for staff positions in generalized public health nursing program located in semi-rural Marin County, near San Francisco. Salaries beginning $200 and $235 per month. California R.N., P.H.N. certificates, Health and Development credential required. Apply Dr. Irving D. Johnson, Health Officer, Marin County Health Dept., 704 Fourth St., San Rafael, Calif.

Wanted: **Public Health Nurse** with degree and public health experience for administrative position in newly organized cancer program. Salary $3,100. Furnish own car, gas and oil furnished. Also public health nurse with degree and public health experience for educational program. **Must own car.** Salary $3 1 Box B, Employment Service, A.P.H.A.

Wanted: **Public Health Nurses** for staff positions in generalized program. Salary $1,800–$2,400. Write: Director, Visiting Nurse Association, 1715 Crawford, Houston 3, Tex.

Wanted: **Public Health Nurse** for generalized public health nursing program in **small southern city.** Must b trained and qualified to plan work. Starting salary $1,800 or more depending on qualifications, plus reasonable travel allowance. Write Claude H. Ballard, Commissioner of Health, Florence, S. C.

Wanted: **Supervisor for Visiting Nurse Association in New Jersey,** 40 minutes from New York City. Fourteen staff nurses. Chest agency in National Welfare and Health Retirement Fund. Salary $3,000. Must have adequate experience in field work, supervision and degree in public health nursing. **Box V,** Employment Service, A.P.H.A.

Wanted: County Public Health Nurses. Beginning salary $190 month. Travel and expense allowed. Permanent. Write Miss Aileen Dyer, Director, Public Health Nursing Div., Oregon State Board of Health, 1022 S.W. 11th Ave., Portland 5, Ore.

Wanted: Public health nurse for staff position. Salary $200–$240, noon dinner allowance. Merit and retirement systems. Program includes generalized field services, interviewing in clinics and group teaching. Minimum requirement certificate of public health nursing. Write Director, Public Health Nursing, Kern County Dept. of Health, P. O. Box 120, Bakersfield, California.

Wanted: Staff nurses general, operating room and central supply room, excellent salary and maintenance, $10 additional for evening and night duty. Apply: William A. Wyckoff, Administrator, T. J. Samson Community Hospital, Glasgow, Ky.

California State Department of Health announces examinations for Public Health Medical Officers Grades 1 and 2. Grade 1 Qualifications: Graduation from recognized medical school, completion of approved internship, two years' experience in practice of medicine inclusive of military medical experience, laboratory or research work, or teaching. Salary $4,860–$5,820. Appointees eligible for formal public health training. Grade 2 Qualifications: In addition approved internship, three years' public health experience. Full-time experience in preventive medicine in military service, or one year formal public health training, or two years' postgraduate training in accepted specialty may be substituted for two years' required experience. Salary $5,460–$6,660. Write Director, California State Dept. of Public Health, 760 Market Street, San Francisco, Calif., for application form.

Wanted: Qualified public health nurses for resort areas of Michigan, to help develop expanding programs of local health departments. Personnel policies written to offer staff members opportunities to

enjoy water and woodland sports and outdoor life year round. Positions open immediately for 10 staff nurses at salary range of $2,100–$2,220, 2 senior nurses at $2,400 and 2 supervising nurses at $2,700–$3,000. Write for personnel form to Director, Northern Peninsula Office, Michigan Dept. of Health, Escanaba, Mich.

Social Hygiene Educator: College graduate with work in public health, sociology, nursing or related subjects and one year of suitable experience to do educational work in social hygiene for health department. Applicants must be not over 45 years of age, U. S. citizens, female. Beginning salary $206.44. Write City Service Commission, City Hall, Milwaukee 2, Wisconsin, for further information and application blank. Examination will be conducted October near to residence of applicants. Closing date for filing applications October 23 (earlier if examination outside Milwaukee).

Wanted: Public Health Laboratory Technician. Salary $215 per month to $265 maximum. Civil Service position. Public Health Laboratory Technician's certificate at next State Personnel Board Examination required. Write **Box X,** Employment Service, A.P.H.A.

Wanted: Health Officer for Montgomery County (Central Illinois). Newly established health department; proposed staff of nine; population 35,000. Salary $6,000–$7,000 depending on qualifications, plus travel allowance. Write Roland R. Cross, M.D., Director, Illinois Dept. of Public Health, Springfield, Ill.

Wanted: Qualified Public Health Nurse for staff position in generalized program in Cortland, N. Y. Opportunity for rural and urban experience in County Health Dept. Transportation provided. Salary $2,178–$2,420. Write Cortland County Health Dept., Cortland, N. Y.

Wanted: Laboratory Technician, female. For 130 bed Tuberculosis Sanatorium in the Middle West. Experience in taking x-rays of the chest desirable but not essential to qualify for the position. Eight hour duty; Saturday afternoons and Sundays off. No night work. Salary $150 per month with full maintenance. Give age, race, experience, and reference when applying. Write **Box P,** Employment Service, A.P.H.A.

Wanted:

1. **Director,** Division including Maternal and Child Health and School Health. Will have an assistant. Full responsibility for planning and developing maternal program and for school examinations. Fifteen health centers in area. Salary $4,000–$5,000, depending on qualifications and merit system approval.

2. **Director,** Health Education. To direct general public health education program, coöperating closely with departments of education and Chattanooga-Hamilton Co. Health Council. Considerable emphasis on tuberculosis control. Educational and public health training required (degree required). Salary $3,000–$3,600, depending on qualifications as above.

3. **Director,** Tuberculosis Control Division. Physician well trained and experienced in reading both photofluorographic and conventional type chest x-rays required. To be in charge of division including visible case register and related records, x-ray clinic, mobile unit and to consult with nursing staff of twenty. Salary $4,000–$5,000, depending on qualifications.

4. **Public Health Nurses,** junior and senior staff nurses. General public health program, urban, rural or combination under excellent supervision. Must have own automobiles. Salaries $1,800–$2,400, with extra mileage allowance.

Write Chattanooga-Hamilton County Health Department, Paul M. Golley, M.D., Director, Chattanooga, Tenn.

Wanted: Three public health staff nurses. Well organized unit and training base. Generalized service. Graduates without public health training $1,920–$2,400. Graduates with full year of public health training in recognized school $2,100–$2,640. Eligibility and classification to be cleared by State Merit System. Own car essential. Adequate travel allowance. Write Dr. D. D. Carr, Director, Topeka City-Shawnee County Health Dept., Topeka, Kans.

Wanted: Physician to head school health program in California city. Annual salary $4,000. Salary for 11 months' service $3,600. Write **Box X,** Employment Service, A.P.H.A.

Wanted: Several Sanitarians qualified in milk, food, and general sanitation in western state health department. Write **Box Z,** Employment Service, A.P.H.A.

POSITIONS WANTED

Physician, four years' public health experience, administrative and clinical, experienced industrial medical examiner, seeks position with an industrial concern as preëmployment examiner and health supervisor or a student health appointment in lower California, coastal area preferred. Write **A-520,** Employment Service, A.P.H.A.

Dentist, 30 years in practice, 13 years in public health work. Several years' executive experience. Now chief of large dental department in southern state hospital. Desires position in southwestern state tuberculosis or mental hospital, or in other public health dental institution. Available after November 30. Write **M-465,** Employment Service, A.P.H.A.

Health **Educator** experienced in community organization work plus university teaching and adult education. Wishes position in community organization work or with special community project in health education. Write Box **H-520,** Employment Service, A.P.H.A.

Pathologist, Board Diplomate, competent and experienced in pathologic anatomy, clinical pathology, bacteriology and tropical medicine; years of public health experience as laboratory director and research associate: consultant, professor and executive; numerous publications, excellent references. Age 40. L-472, Employment Service, A.P.H.A.

Bacteriologist - Immunologist desires permanent position in medical or public health bacteriology and immunology. Doctorate from Eastern university. Several years' research and teaching experience. Veteran. Write Box **L-495,** Employment Service, A.P.H.A.

Bacteriologist and Parasitologist with 4 years' experience as sanitarian and over 3 years' experience in Army medical and sanitary bacteriology, recently 1st Lt., Sanitary Corps, AUS, seeks position in public health laboratory or research in industrial bacteriology. Write **E-490,** Employment Service, A.P.H.A.

Bacteriologist - Serologist, thoroughly experienced and capable; teaching, public health and hospital diagnostic routine; excellent references. **L-475,** Employment Service, A.P.H.A.

R.N., B.S. Wide background of experience in all fields of promotion and health education with official and voluntary agencies. Ability to organize long-range programs and work effectively with staffs and board members. Seeks position in New York City or within commuting distance. Write Box **N-386,** Employment Service, A.P.H.A.

Parasitologist, M.S., female, five years' experience in research and routine laboratory work also in allied biological fields. Write **L-500,** Employment Service, A.P.H.A.

Advertisement

Opportunities Available

WANTED—(a) Physician to direct school health department; staff includes two full-time physicians, dental hygienists, twenty nurses; preferably someone interested in career in public health; large city in Southwest; $4,400–$6,000. (b) Tuberculosis specialist with health background; should be qualified to direct sanatorium of moderate size; $500–$700; Alaska. (c) Director of health department serving 41,000 people; staff of ten; Middle West. (d) Director of student health department; university having enrollment of 10,000; staff of four physicians; $7,500; East. (e) Health commissioner; state health department; must be experienced in public health administration; South. (f) Woman physician for student health appointment; young women's college; approximately 2,000 students; new, well equipped infirmary, large dispensary; staff of five physicians; nine graduate nurses; East. **PH10-1** The Medical Bureau, Burneice Larson, Director, Palmolive Building, Chicago 11.

WANTED—Health Educators (a) To join staff of department of preventive medicine and public health; state university; teaching experience desirable. (b) Generalized public health programs; duties include publicity, radio programs, film showings, public speaking and other activities of health education division. (c) State department of health; minimum of year of graduate work in field of public health with major emphasis on health education required; West. (d) Department of bacteriology and public health, liberal arts college; young man with Doctor of Public Health or Ph.D. required; duties include teaching hygiene and public health training of sanitarians and supervision of sanitary conditions on campus; West. **PH10-2** The Medical Bureau, Burneice Larson, Director, Palmolive Building, Chicago 11.

WANTED—(a) Sanitarian thoroughly familiar with food handling industry to take charge of new school being established for food handlers; teaching experience required. (b) Sanitarian or chemist for research appointment with large industrial company planning expansion program of sanitation improvement. (c) Bacteriologist experienced or trained in public health and laboratory methods; B.S. degree and minimum year's experience required; Alaska; transportation paid from Seattle. (d) Sanitary engineer; duties consist of serving in advisory capacity in general overall sanitary and anti-malarial work of large industrial company; preferably someone free to travel. (e) Sanitarian particularly trained in rodent control; department of health, town of 40,000, South. **PH10-3** The Medical Bureau, Burneice Larson, Director, Palmolive Building, Chicago 11.

WANTED—(a) Public health nurse to carry on educational program, clinics and tuberculin testing throughout county; will work directly under medical director of sanatorium in cooperation with county tuberculosis association; Chicago area. (b) Supervising nurse; duties consist of directing four field nurses, generalized program; duties include supervision of children attending parochial schools; $255, transportation. (c) Supervisor of generalized public health program inaugurated three years ago; staff of ten nurses engaged in active program; preferably someone qualified to direct expansion program; South. (d) School nurse, public health schools, small town in western New York. (e) Director of Visiting Nurse Association now being organized; will start functioning November first; college town of 12,000, Middle West. (f) Public health nurse; duties principally in city schools; college town in Wisconsin. **PH10-4** The Medical Bureau, Burneice Larson, Director, Palmolive Building, Chicago 11.

Advertisement

Opportunities Wanted

Young physician well qualified as health educator; B.S., M.D. and Master of Health degrees; several years, director of university health service where he has carried a rather heavy teaching load; recommended as an exceptionally fine teacher, clear thinker about problems of education and student welfare, able to stimulate students to high degree of activity; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

Young dentist, graduate of Western Reserve University School of Dentistry; several years' successful private practice; interested in teaching and public health dentistry; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

Health educator; B.S., M.S. and Ph.D. degrees, state university; considerable work toward doctorate; 4 years' experience as health educator including year as director of health education in co-educational college; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

Sanitary engineer; A.B., M.S.P.H., B.S.C.E. degrees; experience includes several years as food chemist with large food company and eight years as sanitarian with city health department; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

Bacteriologist, expecting early discharge from military service; B.S. (major: Biology) and Dr.P.H., with specialization in public health laboratory methods, eastern schools; several years in city health department engaged in research before entering service; duties in navy have been confined to bacteriological and immunological research; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

Public health nurse seeks administrative appointment; B.S. degree in nursing education; Public Health certificate; twelve years' public health nursing; past five years, director of generalized program in town of 75,000; for further information, please write Burneice Larson, Director, Medical Bureau, Palmolive Building, Chicago 11.

NEWS FROM THE FIELD

STREPTOMYCIN DISTRIBUTION

Limited commercial distribution of streptomycin through designated hospitals for treatment of civilian patients began September 1, the Civilian Production Administration announced.

The plan, which is similar to that used initially for penicillin distribution, was authorized by amending Schedule 119 to Order M-300.

CPA officials said that more than 1,600 general hospitals have been selected as depots for the drug and will supply other hospitals in their respective areas. They were selected with the assistance of an advisory panel including Dr. Chester S. Keefer, National Research Council; Dr. C. J. Van Slyke, U. S. Public Health Service; and Dr. Victor Johnson, American Medical Association. Pending their notification, the names of the depot hospitals were not released by the Chemicals Division.

Until now the small amount of streptomycin available has been distributed by CPA to meet the urgent needs of the Army, Navy, Public Health Service, Veterans Administration, and also to the National Research Council to carry on an integrated clinical research program to determine the conditions amenable to streptomycin treatment. Streptomycin producers have contributed nearly $1,000,000 to finance the program carried on by the Council's Committee on Chemotherapeutic and Other Agents under the chairmanship of Dr. Chester S. Keefer.

Appeals should be made by the physician in charge of the case to Dr. Keefer, Evans Memorial Hospital, 65 East Newton Street, Boston, Mass.

Chemical Division officials emphasized that the distribution plan provides that depot hospitals place their orders direct with the designated suppliers, an important difference from the plan used in the initial distribution of penicillin by the War Production Board.

So that the sharply limited supply of streptomycin will be of most use to the greatest number of patients, CPA recommends Dr. Keefer's report as a guide for use of the drug.

The Keefer report summarizes 1,500 cases reported by physicians from all parts of the United States. It particularly recommends use of the drug for treatment of tularemia, hemophilus influenzae infections, bacteremia due to Gram-negative organisms, urinary tract infections, and meningitis due to certain specific organisms. Streptomycin has been found to be of questionable value in typhoid fever, brucellosis and salmonella infections and to be ineffective in clostridia infections, malaria, rickettsial infections, virus infections and infections with mold and fungi.

The report includes tuberculosis among a number of diseases for which the drug is a helpful agent but states that in the treatment of these its status has not been definitely defined. It emphasizes that streptomycin will not replace any of the established forms of treatment and that it should not be used as a substitute for other forms of therapy.

DR. DRAPER ASSIGNED TO RED CROSS

Warren F. Draper, M.D., Deputy Surgeon General of the U. S. Public Health Service since 1939, was assigned to the American Red Cross on September 1, 1946. As consultant to its Medical and Health Services, he will aid in the development of these services and in professional relationships throughout the United States. Dr.

Draper has been in the Service since his graduation from the Harvard Medical School, serving for 13 years as Assistant Surgeon General and for three years on loan to Virginia as State Health Commissioner. During the recent war he was loaned to the War Department, serving as Chief, Public Health Branch of civil affairs-military government from May, 1944, to September, 1945, with the rank of Major General. His duties in connection with the prevention of epidemic diseases were carried out in England, France, Belgium, Holland, and Germany.

ACADEMY OF OCCUPATIONAL MEDICINE FORMED

On June 26, at a meeting in the Hotel New Yorker, New York, the American Academy of Occupational Medicine was organized to improve the health of industrial workers, with improvement in occupational efficiency as a corollary. Coöperating with acceptable agencies that may further either directly or indirectly the physiologic well-being of the employed population, it will foster the prevention, diagnosis, treatment, and general care of occupational illnesses or injuries and institute research to encourage a better understanding of the pathogenesis of industrial diseases and improvement in methods of prevention and care. The results of these activities will be made available to interested groups.

KRADWELL FOUNDATION ORGANIZED

The Ada P. Kradwell Foundation has been organized in Wauwatosa, Wisc., to promote public health through the advancement of medical sciences, particularly in the fields of psychiatry, neurology, and allied branches of medicine. Dr. William T. Kradwell has created the organization in memory of his deceased wife. The diagnosis, treatment, care and cure of persons suffering from psychiatric, neurologic, or related diseases will be undertaken at the Foundation and such expenses, incurred by patients who, in the opinion of the Board of Directors, are unable to pay, will be assumed by the Foundation. The group also plans to establish fellowships and scholarships for young physicians who, having completed their internships, desire further training in neurology, psychiatry, or related branches of medicine, or wish to pursue scientific research projects for graduate degrees at medical schools accredited by the American Medical Association. Publication through exhibits, books, talks, and radio addresses of scientific results obtained through this work is planned. The officers of the Foundation are Dr. William T. Kradwell, president; G. H. Schroeder, vice-president and treasurer, and Leon F. Foley, secretary.

DEPARTMENT OF PUBLIC HEALTH APPOINTMENTS AT YALE

Professor Ira V. Hiscock, Chairman of the Department of Public Health at Yale University School of Medicine, has announced the following recent appointments:

William R. Willard, M.D., Dr.P.H., as Assistant Professor of Public Health—formerly Acting Director of Health and Welfare Section of Public Health, U. S. Army, Korea; Senior Surgeon, U. S. Public Health Service (R); and Health Officer, Hagerstown, Md.

Charles C. Wilson, M.D., Professor of Public Health and Education—formerly Professor of Special Instruction, Teachers College, Columbia University.

M. Allen Pond, M.P.H., Assistant Professor of Public Health and Chief of Sanitation, University Health—formerly Senior Sanitary Engineer (R), U. S. Public Health Service, and Consultant of Federal Public Housing Authority.

Franz Goldmann, M.D., promoted to Clinical Professor, chief of medical care section.

A. N. Snoke, M.D., Professor of Hospital Administration (and Director, Grace-New Haven Community Hospital).

Coöperating Departments and Schools:

Elizabeth P. Rice, M.S., appointed Clinical Professor of Social Aspects of Medicine—Director of Medical Social Service, Grace-New Haven Hospital.

Alan Foord, M.D., Clinical Instructor in Pediatrics and Public Health, and Assistant Director, Grace-New Haven Hospital.

Eleanor M. King, M.P.H., Associate Professor of Public Health Nursing (jointly with Yale School of Nursing).

These changes will strengthen the teaching in health administration, in school, medical, and health education, in public health nursing, and in epidemiology, the latter in coöperation with Dr. John R. Paul and his staff in the Department of Preventive Medicine.

CANCER INSTITUTE TRAINING

The National Cancer Institute's training program, designed to increase the ranks of medical specialists in diagnosis and treatment of cancer, has been accelerated through funds recently appropriated by Congress resulting in 15 new appointments, the Public Health Service announced.

The training program is considered to be one of the most effective means of making better diagnostic treatment and services available for cancer patients. Although the program was begun a few months after the Institute was established in August, 1937, it was curtailed during the war.

Up to July 1, 1946, 82 physicians had received the specialized training provided by the traineeships awarded by the Institute. At that time, 7 physicians were still in training; 23 new trainees went on duty during July, and the 15 recommended for August will raise the total to 45. With its program currently expanding, it is expected that the total will be greatly increased by the end of the year.

The physicians spend from one to three years in training at a cancer hospital or in a hospital with a large cancer service. The new appointees and the training centers where they will study are:

Drs. Milton Robbins, Maurice Weisberg, Max W. Mattes, and Leonard Ellenbogen, at Bellevue Hospital, New York.

Drs. William Cahan, Neil P. Beall, Lewis Guiss, Arthur James, Allen Minor, George Parks, Theodore Winship, and Oliver Moore, at the Memorial Hospital for the Treatment of Cancer and Allied Diseases, New York.

Drs. H. W. Mixer and Arnold Kremin, at University of Minnesota Hospital, Minneapolis, Minn., and Dr. Oscar Whiting, at Freedman's Hospital, Washington, D. C.

NEW YORK STATE PLANS STATE-WIDE MODERNIZATION OF MENTAL HOSPITALS

Along with the program to modernize and expand the state's institutional facilities so that overcrowding may be eliminated and provisions made for more adequate care of all patients admitted, the New York State Department of Mental Hygiene has developed plans further to improve the standards of care and treatment as well as prevention of mental disorders. These plans include:

Modern medical and surgical buildings at 16 institutions
Intensified research in the causes and cure of mental illness
Increased use of shock therapies
Special provision for the care of tuberculous mental patients at four regional centers
More staff housing
Better training facilities to meet the need for more psychiatric, nursing and social service personnel
Additional clinics for prevention and after-care
Extension of family care
Improved food service for patients and employees

The building program for the mental institutions will be the largest item in the state departmental construction program as mapped by the Post-war Public Works Planning Commission. As soon as materials and man power become available, the department will launch a program of construction and reconstruction at the state's 28 mental

institutions for which projects estimated to cost over $81,000,000 (on the basis of 1940 building costs) already have been approved by the Planning Commission. It is a long-term program which will take several years to accomplish, but work will be undertaken as rapidly as possible at critical points where the needs are most pressing, especially with reference to medical care facilities and relief of overcrowding.

UNIVERSITY OF CALIFORNIA EXTENSION COURSES

Courses in public health and public health nursing were included in the new fall schedule of evening courses which the University of California Extension opened in downtown Los Angeles.

Dr. K. H. Sutherland, District Health Officer for the Los Angeles County Health Department, is conducting a course in Public Health and Preventive Medicine. Public health nursing courses included a class in Industrial Hygiene for Nurses with Mrs. Olive Whitlock Klump as instructor, Industrial Nursing; Occupational Diseases with Dr. Rutherford Johnstone as instructor, and Economics and Management of the Ward Unit with Barbara Thompson as instructor. Numerous other courses of interest to nurses and particularly an expanded program of psychology classes were included in the university schedule.

HOSPITAL ADMINISTRATION COURSE AT THE UNIVERSITY OF MINNESOTA

A new course in hospital administration in the University of Minnesota's School of Public Health under a grant from the Kellogg Foundation has been established as a step toward meeting the great demand for trained hospital administrators.

The course, which began with the fall quarter, has been opened only to students holding at least a bachelor's degree and has been limited at the outset to an enrollment of 20. Prospective hospital administrators will be required to complete two full academic years of study including one year of actual course work and one year of work on an interneship basis in some hospital. Successful completion of the course will lead to a master's degree.

The Kellogg Foundation has awarded the university an initial grant of $20,000 for the first year of the course. Terms of the agreement between the Foundation and the university call for additional grants of $20,000 for each of the two following years. At the end of the first three years, if the course in hospital administration has demonstrated its value as a normal part of university activities, it is expected to become a permanent phase of the university's curriculum.

Plans for the program at the University of Minnesota called for the organization of a committee on hospital administration to consist of the Dean of the School of Business Administration, the Superintendent of University Hospitals and the Director of the School of Public Health. Specific courses to be included in the program were determined by this committee and were in four general fields: hospital organization and administration, public health, business administration, and social work.

NEW EFFORTS TO REDUCE DEATHS FROM HEART DISEASE

A recent news release of the Metropolitan Life Insurance Company compares the death rate for diseases of the heart and arteries during the period 1911–1915 and 1940–1944. A reduction of 37 per cent was noted among white females and 25 per cent among males in the latter period. Further reductions are thought to depend upon education of the public as to the pre-

vention, early recognition, and care of cardiac lesions.

In order to assist in the attainment of this goal, the Metropolitan Life Insurance Company is conducting a special campaign on heart disease during the fall and winter months. At that time, the company's more than 20,000 Field Representatives, in coöperation with official and voluntary agencies, will reach the homes of millions of policy holders with a recently published pamphlet, *Your Heart*, developed in coöperation with the American Heart Association. A lay educational film on heart disease is also being prepared. Distribution will be made to physicians of a packet in which will be included material of special interest to doctors, and a scientific exhibit on heart disease, first shown at the A.M.A. meeting in San Francisco, is available for state and local professional meetings.

NEW STUDIES ON VITAMINS

An advisory committee of eight scientists has been appointed by the National Vitamin Foundation Inc., to assist Dr. Robert Stanley Goodhart, Scientific Director, in the formulation of an overall research program on vitamins and to approve specific investigations to be conducted through grants-in-aid to various established institutions, continuing three such projects already under way. The Foundation replaces the Institute for Vitamin Research organized in 1944, and has established headquarters under Dr. Goodhart at 150 Broadway, New York.

In announcing the appointments and the Foundation's new name and goals, Dr. Theodore G. Klumpp, chairman of the Foundation's board of governor's stated the vitamin research program would be broad in scope "to permit the support of diverse projects likely to furnish information needed to fill in serious gaps in our knowledge of nutrition." Members of the committee who have accepted to serve the Foundation are:

Dr. Otto A. Bessey
Dr. George R. Cowgill
Dr. Norman Jolliffe
Dr. H. D. Kruse
Dr. Carl V. Moore
Dr. Severo Ochoa
Dr. W. H. Sebrell
Dr. Frederick F. Tisdall

Under grants totalling $11,000, the three investigations already in progress in which the Foundation is interested were announced by the board of governors as:

A nutritional survey of the school children of Burlington, Vt., being conducted under the direction of Dr. Harold B. Pierce, Professor of Biochemistry, College of Medicine, University of Vermont.

Investigations of the rôle of folic acid in leukemia, being made by Dr. A. D. Welch, Professor of Pharmacology, Western Reserve University, and associates.

Quantitative studies of the effects of nutrition upon the susceptibility of mice to anaphylactic shock, being conducted by Dr. Frederick J. Moore, Department of Experimental Medicine, University of Southern California, School of Medicine. This work is planned as a first step in a long term program to identify the fundamental metabolic systems involved in anaphylaxis, allergy, and immunity.

In addition to these grants-in-aid, which are to be made ordinarily by the Foundation on January 1 and July 1 of each year, a grant of $1,000 was made to the New York City Food and Nutrition Committee for a permanent exhibit on nutrition. This exhibit was placed on public display in Rockefeller Center during June of this year and is between public exhibits at the New York City Food and Nutrition Center, 125 Worth Street. Applications for grants-in-aid should be made to Dr. Goodhart at 150 Broadway, New York.

ROSENSTOCK MEMORIAL FOUNDATION OFFERS RESEARCH FELLOWSHIPS

The Rosenstock Memorial Foundation, Inc., founded in February, 1946, by Mrs. Sadie S. Rosenstock, is offering three Fellowships of $2,000 per annum renewable upon application and approval for an additional year. The grants are limited to the support of full-time or part-time medical research to be conducted in hospitals with medical school affiliations in any of the five boroughs of New York City.

Fellowships will be limited to those who apply within three years of the completion of internship or residency, excluding time spent in military services. Applications must be endorsed by the director of the hospital where it is proposed that the research be conducted, and forwarded by the endorser to the Foundation at 42–16 West Street, Long Island City 1, New York, by November 1.

The Grants will be announced in December and the funds will be turned over to the hsopitals involved.

HEALTH COUNCIL OF GREATER NEW YORK ORGANIZED

On May 17, the Health Council of Greater New York was incorporated, with E. Roland Harriman as President, and Kenneth D. Widdemer as Acting Executive Secretary. As outlined in the incorporation papers the purpose of the New Council are: " to promote the maintenance of health and the prevention of sickness throughout the City of New York and, to that end,

1. To develop and assist in developing a comprehensive, long-range plan for the improvement, extension and coördination of health services throughout the City of New York;

2. To encourage citizen understanding and active support of the programs and objectives of agencies, both public and private, which may from time to time exist in the health field;

3. To promote the organization of groups of citizens on a borough, regional, district or neighborhood basis, and to interest such groups and medical, dental, nursing, teaching and other groups in borough, regional, district or neighborhood health programs; and to aid and assist such citizens and other groups in such programs;

4. To coöperate and maintain close relationship with the Department of Health of the City of New York and other official agencies concerned with health programs, in the improvement and extension of health services, health protection and dissemination of health information for the people of the City of New York;

5. To coöperate with other non-profit agencies in the health field, and to assist in and maintain such common services for health agencies in the City of New York as may from time to time be found helpful.

6. To develop, and aid in the development of, special health projects or demonstrations, and promote and carry on research in the health field and prepare and publish material relating to health matters; and

7. To provide a health information service for the people of the City of New York.

In its plan of organization it suggests that, once the Health Council is fully organized, it join with the Welfare Council of New York and the Hospital Council of Greater New York in forming a United Council of the three agencies. The Welfare Council, in existence since 1924, for many years had a Health Section and in recent years a joint Health and Welfare Section. It also has health sections in four of its five borough organizations. The Hospital Council was organized in 1938, following a hospital study of Greater New York. It is engaged in developing a master plan for hospital and related facilities in New York and in coördinating existing facilities in the light of the overall needs.

In addition to the President, Mr. Harriman, the officers of the New Health Council are: *Vice Presidents,* Mrs. Clarence G. Bachrach, Mrs. Jose M. Ferrer, I. Ogden Woodruff, M.D.; *Treasurer,* Harry P. Davidson; *Assistant Treasurer,* Mortimer J. Gleeson; *Secretary,* Mrs. Shepard Krech. Among

the thirty members of its Board of Directors are George Baehr, M.D., Bailey B. Burritt, Stanley P. Davies, Louis I. Dublin, Ph.D., Homer Folks, James Alexander Miller, M.D., Harry S. Mustard, M.D., Edward M. Bernecker, M.D., and Israel Weinstein, M.D., the latter two ex-officio as Hospital and Health Commissioners respectively.

DR. PARRAN APPOINTED WHO DELEGATE FROM THE UNITED STATES

President Truman has announced the appointment of Dr. Thomas Parran, Surgeon General, U. S. Public Health Service, as United States delegate to the Interim Commission of the World Health Organization. Dr. H. van Zyle Hyde also of the Public Health Service, currently detailed to the Division of International Labor, Social, and Health Affairs, State Department, was named alternate delegate.

The Interim Commission will meet at Geneva, Switzerland, in November for the first of the meetings to be held every four months. The Commission will handle any urgent health problems that may arise before the World Health Organization gets underway and will formulate plans for setting up the permanent structure of the World Health Organization.

SANITARY CORPS—MEDICAL SERVICE CORPS

A news release from the Office of the Surgeon General, U. S. Army, dated August 2, 1946, explains the proposed plan to reorganize certain portions of the Medical Department. If the recommended plans are enacted into legislation, the Sanitary Corps will become part of a composite Medical Service Corps to be composed of the Sanitary Corps, Pharmacy Corps, and Medical Administrative Corps. According to information disseminated at another time, the promotion schedule will not be the same as that in effect in the "Professional Corps," namely Medical, Dental, and Veterinary.

High tribute is paid to "the brilliant record set by some 3,000 Sanitary Corps officers during the war in maintaining the healthiest army in the world." The Surgeon General, in inviting specialists in sanitary engineering, entomology, nutrition, industrial hygiene, etc., to apply for commissions in the Regular Army, stated that it is his intention to utilize the technical or administrative skill and training of each officer to the fullest.

Requests for further information on direct commissions should be sent to the Personnel Section, Office of the Surgeon General, U. S. Army, Washington, D. C.

DIVISION OF HOSPITAL FACILITIES IN U. S. PUBLIC HEALTH SERVICE

Dr. Thomas Parran, Surgeon General of the U. S. Public Health Service, has announced the creation in the Service of a Division of Hospital Facilities. The new division will assist in carrying out the provisions of the Hospital Survey and Construction Act passed by the recent Congress. The director of the division is Vane M. Hoge, M.D., who has hitherto been head of the Hospital Facilities Section of the Bureau of State Services whose functions have been absorbed by the new division.

ASSOCIATION OF MILITARY SURGEONS

The Annual Convention of the Association of Military Surgeons of the United States will be held in Detroit, Mich., October 9–11, 1946. There is no registering fee.

Although most of the topics refer to strictly medical subjects, public health is included as one of the panels on the program. A special invitation is extended to all combat medical officers

and naval corps men to attend the convention as guests of the association.

Reservations should be made through Col. Burt R. Shurly, 1005 Stroh Bldg., Detroit 26, Mich.

ROBERT GOULD INSTITUTE FOR NUTRITIONAL RESEARCH

Announcement was made in August of the establishment of the Robert Gould Institute for Nutritional Research in Cincinnati (Carew Tower). It will conduct researches in human and animal nutrition of agricultural and animal by-products. It will engage in educational activities by training specialists in nutrition, with grants and scholarships for students who will undertake research at the Institute, and will provide research grants to educational and scientific institutions.

The director of the project is Dr. Arthur Lejwa, co-discoverer of the male sex hormone and internationally known for his work in nutrition and biochemistry.

The decision to endow a Foundation was prompted by researches which Robert Gould and his associates instituted in 1941 at the University of Kentucky to reclaim animal feed from by-products of industries using grain.

The Foundation is already in operation and the building of executive offices, laboratories, and library is being planned, as well as an experimental farm.

DEMEROL IS HABIT-FORMING

The *Journal of the American Medical Association* (July 13, 1946) calls attention to the fact that Demerol is habit-forming and that it was placed under strict control both in Germany and Argentine, where it has been in use for several years. H. J. Anslinger, Commissioner of Narcotics, Washington, D. C., wrote the article in protest against the June *Reader's Digest* article, "God's Own Medicine," by Paul de Kruif. Here the author asserted, "The painfighting power of Demerol is as miraculous as that of morphine—without the opiate's danger of addiction." Commissioner Anslinger points out that his files contain numerous case histories of addiction involving the use of Demerol.

NORTH DAKOTA PUBLIC HEALTH ASSOCIATION MEETS

The Third Annual Meeting of the North Dakota Public Health Association was held at Bismarck on May 28 and 29, 1946. The attendance was gratifying. Francis C. Lawler, Sc.D., President of the Association, was Chairman of the conference, and officers elected for the new year were A. L. Bavone, President, Howard Hammond, Treasurer.

Dr. Lawler announced that application for affiliation with the American Public Health Association had been submitted.

ILLINOIS HEALTH EDUCATION PROGRAM

A Workshop in Health Education opened at the Southern Illinois Normal University on June 10 and continued until August 3 and also one at the Illinois State Normal University opened June 29 and continued until August 23. The workshops permitted the participants to develop specific projects based on their own teaching experience and, by comparisons and discussions, stimulated interest regarding the health of the whole child, the whole school and the whole community.

NEW MEXICO HEALTH FOUNDATION

Stuart Adler, M.D., Chairman of the Board of Trustees of the New Mexico Health Foundation, Albuquerque, N. M., has announced the gift by Mrs. Katrina McCormick Barnes, of funds for a foundation to be known as the New Mexico Health Foundation which has now been established. The purpose

of these funds is to help to correct some of the unfortunate health conditions known to exist in New Mexico. A trust fund of $350,000 has been made available for the Foundation.

According to Dr. Adler, communities where the needs are greatest will receive help in a program to be developed and carried out in coöperation with the New Mexico State Department of Health and other agencies. The foundation desires to avoid overlapping in any phase of its health work and will endeavor to extend needed assistance, particularly in some of the remote and isolated areas where health services are now insufficient.

The trust fund will be administered by a Board of Trustees including, beside Dr. Adler, the following persons: Mrs. Gustave Bauman of Santa Fe; Dr. Edward Eyring, President of Highlands University, Las Vegas; John F. Simms, Sr., of Albuquerque, and Horace Barela of Albuquerque.

CORRECTION

In the News from the Field, August Journal, page 954, the John and Mary Markle Foundation is stated to have made grants during 1945 amounting to $48,600, which should have been $486,000.

PERSONALS

Central States

GEORGE F. CAMPANA, M.D., M.P.H.,* recently State Health Officer of North Dakota, has been appointed Acting Director of the Division of Communicable Diseases in the New Hampshire State Department of Health, Concord.

L. T. COGGESHALL, M.D.,* who recently has been on leave from the University of Michigan, School of Public Health, Ann Arbor, Mich., as Professor of Epidemiology and Chairman of the Department of Tropical Diseases, has become Chairman of the Department of Medicine at the University of Chicago, effective July 1. Dr. Coggeshall has recently been released from the Medical Corps of the U. S. Navy with the rank of Captain.

LEO J. GEHRIG, M.D., of Mopeming, Minn., Assistant Surgeon, U. S. Public Health Service, has been lent to the Territorial Department of Health in Alaska to serve as consultant in tuberculosis control. It is planned to establish a central office for public health supervision of tuberculosis and to coördinate work of interested groups. A case finding program is also planned.

OPAL C. HARTLINE, PH.D., M.P.H.,† of Ashley, Ill., has been appointed Chief of Public Health Education in the Illinois State Department of Public Health, Springfield, to succeed JEAN CHRISTOPHER,* who has resigned.

ROBERT F. MCNATTIN, M.D., of Chicago, Ill., has been named Director of the newly created Cancer Division of the Pennsylvania State Department of Health. The new unit was created under a recent legislative appropriation of $100,000. The new division seeks to make facilities for the diagnosis and treatment of cancer accessible to every person in Pennsylvania.

STEPHEN K. MOLNAR, M.D.,† has been appointed Director of the Tuberculosis Division, Wayne County Health Department, Mich., effective July 1. Dr. Molnar returned from overseas duty last fall and completed the requirements for the M.P.H. degree at the School of Public Health, University of Michigan this spring under a Rockefeller Foundation Fellowship.

---

* Fellow, A.P.H.A.
† Member, A.P.H.A.

WALTER B. QUISENBERRY, M.D.,* has been appointed Acting Head of the Department of Public Health and Preventive Medicine at the College of Medical Evangelists, Los Angeles, Calif. During the past year, he was Director of the Division of Venereal Diseases in the Nebraska State Health Department, having been loaned to Nebraska by the U. S. Public Health Service.

JOHN W. TOWEY, M.D., Medical Superintendent of the Pinecrest Sanitarium, Powers, Mich., for the last 25 years, has been appointed Chief of the Tuberculosis Division for the Columbus branch office of the Veterans Administration. Dr. Towey will be in charge of all technical and administrative aspects of the tuberculosis program in Veterans Administration hospitals of Ohio, Michigan and Kentucky.

HAROLD A. WHITTAKER * has resigned as Chief of the Division of Sanitation of the Minnesota Department of Health and has joined the staff of the University of Minnesota School of Public Health as Professor of Public Health Engineering.

Eastern States

HILDING A. BENGS, M.D., of Camp Hill, Pa., has been named Head of the Bureau of Mental Health in the Pennsylvania State Department of Welfare, Harrisburg, succeeding WILLIAM C. SANDY, M.D., of Harrisburg, who retired in July, 1944. Dr. Bengs has been Acting Chief since November, 1944.

FLORENCE G. BLAKE, R.N., M.S., Assistant Professor of Pediatric Nursing at Yale University, has been appointed Assistant Professor in the faculty of nursing education at the University of Chicago, effective October 1. Miss Blake will teach nursing care of children in coöperation with Bobs Roberts Hospital of the University Clinics.

GEORGE L. CANTZLAAR, of Brooklyn, N. Y., has been appointed Director of Publications and Public Relations for the New York State Department of Mental Hygiene.

JOHN E. FARRELL,* Executive Secretary of the Providence Medical Association, the Rhode Island Medical Society, and the Council of the New England State Medical Societies, has been reappointed by Governor John O. Pastore for a five year term to the 5 member Advisory Council on Health for the State of Rhode Island.

L. L. HEDGEPETH,* Technical Assistant to the Vice President of the Pennsylvania Salt Manufacturing Company in Philadelphia, has accepted an appointment as Executive Secretary of the Virginia State Water Control Board, effective December 1.

JOHN M. HENDERSON * has reported for permanent resident work as Professor of Sanitary Science at the Columbia University School of Public Health, effective August 1. His appointment dates from January 1, 1943, and he has been on leave of absence from Columbia serving with the U. S. Public Health Service Reserve. From February, 1944, until August 1, 1946, Professor Henderson was Chief of the Engneering Division of Malaria Control in War Areas Headquarters, in Atlanta, Ga.

CHANGES IN HEALTH PERSONNEL IN MAINE:

FRANK E. LESLIE, M.D., of Andover, has been appointed Mental Hygiene Adviser to the Board of Control of Iowa State Institutions, effective June 1. Dr. Leslie retired from government service in 1943, ending more than 25 years

---

* Fellow, A.P.H.A.
† Member, A.P.H.A.

of service in government mental institutions.

MAURICE A. PRIEST, M.D., of Augusta, has been appointed District Health Officer for the State Department of Health and Welfare, effective June 3.

DOROTHY B. NYSWANDER, PH.D.,† of the Inter-American Educational Foundation, Inc., in Washington, D. C., has been appointed Professor of Public Health Education in the University of California School of Public Health, Berkeley, Calif., effective September 9.

DALLAS PRATT, M.D., recently released from the Medical Corps of the Army of the United States, has been appointed Staff Consultant to the National Mental Health Foundation in Philadelphia. As staff consultant, Dr. Pratt will review educational material prepared by the Foundation and will assist in interpreting its program of improving standards of care and treatment for the mentally ill to the medical profession.

CATHERINE E. SHECKLER, R.N., M.P.H.,† Associate Professor of Public Health Nursing at the University of Pittsburgh, has been appointed to the faculty of nursing education at the University of Chicago as Assistant Professor, effective October 1. She will teach maternity nursing in coöperation with the Chicago Lying-in Hospital.

MARY A. STITES of New York, has been appointed Associate Professor of Medical Social Work at the Nashville School of Social Work, a coöperative enterprise of Vanderbilt University and Peabody and Scarritt Colleges.

REAR ADMIRAL DALLAS S. SUTTON (MC) USN (Rt), it is announced by the American Hospital Association, has been appointed to the staff of the Association's Washington Service Bureau. He will be concerned with the exchange of information on standardization of civilian and federal hospitals, will study the program of hospital benefits to veterans, and will serve as liaison between the Association and the federal government in matters concerning the federal hospital program. Admiral Sutton was Assistant Surgeon General of the Navy from 1937 to 1941. Later he was Commanding Officer of the Portsmouth, Virginia, Naval Hospital, was in charge of construction of the Bethesda Naval Medical Center, and was inspector of east coast activities of the Naval Medical Department before his retirement in April, 1946.

C. RICHARD WALMER, M.D., has been appointed Medical Director of Industrial Hygiene at the Mellon Institute in Pittsburgh, Pa. He will direct the medical phases of the Foundation's work for the improvement of working conditions and the advancement of employee health in industry. For the past 5 years, Dr. Walmer has been associated with T. LYLE HAZLETT, M.D.,* Medical Director at Westinghouse Electric Corporation, serving as Toxicologist and as a consulting specialist in industrial medicine.

Southern States

THERON H. BUTTERWORTH, PH.D.,* who has been serving with the Milk and Food Section of the Sanitary Engineering Division, U. S. Public Health Service, has been transferred to the Office of Health Education, Bureau of State Services, U. S. Public Health Service, as Health Education Consultant.

COL. JOHN M. CALDWELL, MC, is the new chief of the Neuropsychiatry Consultants Division of the U. S.

* Fellow, A.P.H.A.
† Member, A.P.H.A.

Army, following BRIGADIER GENERAL WILLIAM C. MENNINGER's separation from the Army on June 27. Col. Caldwell returned to the United States on March 1 of this year after two years of service in the Pacific and reported to understudy General Menninger on May 1.

JAMES A. CRABTREE, M.D.,* Medical Director of the U. S. Public Health Service, has been appointed Deputy Surgeon General of the U. S. Public Health Service, effective September 1. Since September 10, 1945, after his release as Deputy Director of Health of UNRRA, Dr. Crabtree has served as Special Assistant to the Surgeon General. In his new assignment, he will be second in command of the Public Health Service and will act as the Surgeon General in Dr. Parran's absence.

J. CLARENCE FUNK, Sc.D., has resigned as Director of Health Education in the Virginia Department of Health, Richmond, effective September 1. Dr. Funk has been associated with the department for 10 years.

COL. HAROLD B. GOTAAS * has resigned as President of the Institute of Inter-American Affairs to become Professor of Sanitary Engineering at the University of California, Berkeley.

JACQUES P. GRAY, M.D., M.P.H.,* who has been Dean of the Medical College of Virginia has been appointed Dean of the School of Medicine and Professor of Public Health Medicine of the University of Oklahoma, Oklahoma City, Okla., effective September 1.

CLAIR A. HENDERSON, M.D., has been awarded the 1945 Lucas trophy for having done the most worth while thing during the year for Savannah, where he is currently serving as City and Chatham County Health Officer. He has been selected for his leadership of Savannah in the campaign against tuberculosis and venereal disease, which saw 71,149 persons voluntarily submit to chest x-rays and blood tests in a 45 day period last fall.

BARBARA A. HEWELL, M.D.,† Assistant Director of the Division of Research in Child Development, U. S. Children's Bureau, Washington, D. C., has been appointed Assistant Director of the Bureau of Maternal and Child Health and Crippled Children for the Hawaii Territorial Board of Health.

RAYMOND W. HOLBROOK, former Associate Director of Libraries at the University of Georgia, has been appointed Director of the Library of the Russell Sage Foundation in New York.

HENRY B. MAKOVER, M.D.,† until recently Senior Surgeon (R), U. S. Public Health Service, assigned as Chief, Health Services Branch, Office of Labor, War Food Administration, has been appointed Associate Director of the Montefiore Hospital in New York City and will begin his duties on September 1.

EDWARD C. MULLINIKS, M.D.,† of Kingsfoot, Tenn., has been named Director of the Washington County Health Department.

GRADIE R. ROWNTREE, M.D., M.P.H.,* Deputy Director of Health, Louisville and Jefferson County Health Department and Associate Professor of Public Health, University of Louisville School of Medicine, has been given a leave of absence to do postgraduate work in public health administration and in general medicine at Columbia University.

FRANK E. WILSON, M.D.,† of Concord, N. C., has been recently appointed Deputy National Medical Director of the American National Red Cross. Dr. Wilson was discharged in Febru-

* Fellow, A.P.H.A.
† Member, A.P.H.A.

ary of this year with the rank of Colonel after 5 years' service with the Army Medical Corps.

Western States

CHANGES IN HEALTH PERSONNEL IN CALIFORNIA:

JOHN L. PARKER, M.D., Brawley, has been named Health Officer of Imperial County, succeeding MIRIAM HUBBELL, M.D.,† El Centro.

JAMES L. DENNIS, M.D., Merced, has been appointed Health Officer of Merced County, succeeding BRUCE E. MCDOWELL, M.D.

ALLEN E. PRIEST, M.D., formerly of Klamath Falls, Ore., has been named Health Officer of Lassen County, succeeding JAMES W. CREVER, JR., M.D., of Susanville. Dr. Crever will continue to act as Health Officer for the city of Susanville.

LESTER J. SAWYER, M.D., San Fran-Francisco, is the new Health Officer of the city of Belvedere.

WILLIAM M. HAMMON, M.D., DR. P.H.,† Associate Professor of Epidemiology, University of California Medical School, San Francisco, has been appointed Dean of the University of California School of Public Health, Berkeley. He succeeds WALTER H. BROWN, M.D.,* who recently retired.

EDWIN H. LENNETTE, M.D., attached to the Virus Laboratory, California State Department of Public Health, Los Angeles, as a member of the staff of the International Health Division of the Rockefeller Foundation, has been appointed Director of the Division of Microbiologic Research at Camp Detrick, Frederick, Md.

LYNN J. LULL, M.D.,* has returned to his position as Director of Local Health Service and Medical Consultant for the Idaho Department of Public Health, Boise. Dr. Lull had been lent to act as Superintendent of the State Hospital, South, at Blackfoot, whose management has now been taken over by a State Hospital Board. HAROLD E. DEDMAN, M.D., is Chairman of the Hospital Board and HARVEY H. BROWN, M.D., Superintendent of the hospital.

WILLIAM R. MURLIN, M.D., U. S. Public Health Service, once Acting Director of the Division of Tuberculosis Control, Oregon State Department of Health, Portland, has been named Survey Physician of the Tuberculosis Bureau of the Board of Health of Hawaii.

CHANGES IN HEALTH PERSONNEL IN WASHINGTON STATE:

HOWARD L. MCMARTIN, M.D.,† formerly of Phoenix, Ariz., has been appointed Snohomish County Health Officer, succeeding CHARLES R. MUELLER, JR., M.D., who was transferred by the U. S. Public Health Service.

CONRAD E. ROSDAHL, M.D.,† Spokane, has been appointed Health Officer of Kittitas County, succeeding L. H. WALKER, D.D.

HAROLD B. STOUT, M.D., Brewster, has resigned as Health Officer of Douglas County.

SAM SPARHAWK, M.D.,† Burlington, Vt., has been placed in charge of the Lewis-Pacific Counties Department of Health.

HAROLD MARKS, M.D., Springfield, Ill., has been named Health Officer of Pierce County.

B. WILLIS JOHNSON, M.D., Everett, has been named Health Officer of Everett to succeed WILLIAM D. SMITH, M.D., resigned.

DEATH

DENNETT L. RICHARDSON, M.D., of Providence, R. I., died on September

* Fellow, A.P.H.A.
† Member, A.P.H.A.

8 at the age of 66. He had been Superintendent of the Charles V. Chapin Hospital in Providence for more than 30 years before he left in 1940 to become Superintendent of the Rhode Island Hospital. He held the latter post until January 1.

CONFERENCES AND DATES

American Dietetic Association—28th Annual Meeting. Netherland Plaza, Cincinnati, O. October 14–18.

American Public Health Association—74th Annual Meeting. Headquarters—Public Auditorium, Cleveland, O. November 12–14.

Meetings of related organizations, November 11:

- American School Health Association
- Association of Maternal and Child Health Directors
- Association of Reserve Officers of the U. S. Public Health Service
- Conference of Municipal Public Health Engineers
- Conference of Professors of Preventive Medicine
- Conference of State Directors of Health Education
- Conference of State Sanitary Engineers
- Conference of State and Provincial Public Health Laboratory Directors
- Council of State Directors of Public Health Nursing
- National Advisory Council of Cleveland Health Museum
- National Committee of Health Council Executives
- Public Health Cancer Association

American Public Welfare Association—Annual Round Table. Baltimore, Md. December 5–8.

American Water Works Association—

- Southwest Section—Baccaneer Hotel, Galveston, Tex. October 14–17.
- New England Section—Parker House, Boston, Mass. October 17.
- California Section—Whitcomb Hotel and Civic Auditorium, San Francisco, Calif. October 23–25.
- West Virginia Section—Hotel Pritchard, Huntington, W. Va. October 24–25.
- Kentucky-Tennessee Section — Andrew Johnson Hotel, Knoxville, Tenn. October 28–30.
- Iowa Section—Organization Meeting. Kirkwood Hotel, Des Moines, Ia. November 4–6.
- New Jersey Section—Chelsea Hotel, Atlantic City, N. J. November 7–9.
- Virginia Section—John Marshall Hotel, Richmond, Va. November 14–15.
- Wisconsin Section—Northland Hotel, Green Bay, Wis. November 15–17.
- North Carolina Section—Hotel Carolina, Raleigh, N. C. November 18–20.
- Cuban and Florida Sections—Joint Meeting. Havana, Cuba. November 22–24.

International Association of Milk Sanitarians, Inc.—Annual Meeting. Seaside Hotel, Atlantic City, N. J. October 24–26.

National Association of Housing Officials. Cleveland, O. October 10–12.

National Committee for Mental Hygiene—37th Annual Meeting. Hotel Pennsylvania, New York, N. Y. October 30–31.

National Malaria Society—29th Annual Meeting. Everglades Hotel, Miami, Fla. November 4–7.

National Society for the Prevention of Blindness — Conference. Hotel Pennsylvania, New York, N. Y. November 25–27.

Southern Branch, A.P.H.A.—conjointly with the Southern Medical Association. Miami, Fla. November 4–7.

FOR SALE

One trailer specially built by General Electric X-ray Corporation for use in mass X-ray surveys. Practically new. Electrically heated and ventilated. Insulated roof. Small darkroom and developing tank. Will sell at half price. For particulars write or call Philadelphia Tuberculosis and Health Association, 311 South Juniper Street, Philadelphia 7, Pennsylvania. Telephone—PEnnypacker 5-2200.

A HELPING HAND FOR BUSY HEALTH OFFICERS

DIXIE CUPS